THE NEWS LETTER
OF THE
BUREAU OF PUBLIC ROADS

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CONTENTS

EXTRACTS FROM SPEECH OF SENATOR PHIPPS OF COLORADO ON FEDERAL HIGHWAY AID, DELIVERED BEFORE THE UNITED STATES SENATE, AS REPORTED IN THE CONGRESSIONAL RECORD OF APRIL 29, 1926, PP. 8353-8357.

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"MR. PHIPPS. MR. PRESIDENT, THE HOUSE HAS PASSED A BILL, H.R. 9504, COVERING FEDERAL AID IN THE CONSTRUCTION OF ROADS. THIS BILL INCLUDES AUTHORIZATIONS UNDER WHICH APPROPRIATIONS TOTALING $75,000,000 FOR THE FISCAL YEAR ENDING JUNE 30, 1928, AND THE SAME SUM FOR THE FISCAL YEAR ENDING JUNE 30, 1929, TOGETHER WITH TEN PER CENT OF LIKE AMOUNTS FOR THE CONSTRUCTION OF FOREST ROADS AND TRAILS, WILL BE MADE AVAILABLE; THE BILL BEING IDENTICAL WITH THE ONE PASSED BY THE SIXTY-EIGHTH CONGRESS, EXCEPTING THAT THOSE AUTHORIZATIONS APPLIED TO THE YEARS 1926 AND 1927.

"MR. PRESIDENT, ONLY WITHIN RECENT YEARS HAS THE NECESSITY FOR GOOD ROADS BEEN BROUGHT HOME TO THE AMERICAN PEOPLE AND TO THE AMERICAN CONGRESS. DURING THE PAST CENTURY THE WONDERFUL DEVELOPMENT OF THE RAILROAD FORCED HIGHWAY CONSTRUCTION INTO DECIDEDLY SECOND PLACE. THE ROADS AND TRAILS OF THE COUNTRY, ON WHICH SOME PROGRESS HAD BEEN MADE IN OUR EARLY HISTORY, WERE SHAMEFULLY NEGLECTED, AND THIS CAN EVEN BE SAID OF CONDITIONS WITHIN THE PAST DECADE" * * * *

SENATOR PHIPPS CONTINUED BY OUTLINING THE RESULTS WHICH HAVE BEEN ACCOMPLISHED BY FEDERAL ROAD AID SINCE 1916. HE POINTED OUT THAT IN THE FISCAL YEAR 1924, ONLY 2.3 PER CENT OF THE TOTAL FEDERAL BUDGET WENT INTO HIGHWAY CONSTRUCTION. HE THEN DISCUSSED THE BENEFITS TO THE FARMER, THE IMPROVEMENT IN THE RURAL MAIL SERVICE, THE ADVANTAGES TO THE CITY DWELLER, THE REDUCED COST OF TRANSPORTATION FOR THE MANUFACTURER, AND THE VALUE OF ROADS FOR MILITARY PREPAREDNESS. THE SENATOR FROM THIS POINT, BY LOGICAL AND CONVINCING ARGUMENTS, PROCEEDED TO REFUTE THE OBJECTIONS WHICH HAVE BEEN RAISED FROM TIME TO TIME AGAINST THE CONTINUATION OF FEDERAL ROAD AID AS FOLLOWS:

"SENATORS, I CAN NOT IMPRESS UPON YOU TOO STRONGLY THAT THE INTERESTS OF ALL OUR PEOPLE ARE INTERWOVEN IN GOOD ROADS. I CAN NOT REPEAT TOO OFTEN THAT HERE WE HAVE ONE OF THE FEW PROPOSITIONS THAT BENEFIT ALL OUR CITIZENS - THE FARMER, THE CITY DWELLER, THE BUSINESS MAN, THE MANUFACTURER, THE MECHANIC, THE MINER, AND THOSE IN EVERY WALK OF LIFE. PLEASE REMEMBER ALSO THAT, IN THE WORDS OF MR. THOMAS H. MACDONALD, CHIEF OF THE FEDERAL BUREAU OF PUBLIC ROADS -

"WE PAY FOR IMPROVED ROADS WHETHER WE HAVE THEM OR NOT, AND WE PAY LESS IF WE HAVE THEM THAN IF WE HAVE NOT.

"IN OTHER WORDS, IT COSTS MONEY TO MOVE ANY VEHICLE OVER THE HIGHWAYS, AND THAT TOTAL SUM IS MATERIALLY LESS IF THOSE HIGHWAYS ARE PROPERLY IMPROVED. IT SEEMS TO ME THAT WE SHOULD WELCOME THIS OPPORTUNITY TO EXTEND SUCH UNIVERSAL AID TO THE PEOPLE OF THE UNITED STATES AND AT THE SAME TIME TO BRING ABOUT A GREAT PUBLIC SAVING IN TIME, EFFORT, AND ACTUAL MONEY.

"BUT IT IS ASKED: HOW IMPORTANT A PART HAS THE UNITED STATES ACTUALLY HAD IN THE DEVELOPMENT OF OUR NATIONAL HIGHWAYS? HAS SUCH FEDERAL AID BEEN RESPONSIBLE, TO ANY GREAT EXTENT, FOR THE DEVELOPMENT WITHIN RECENT YEARS WHICH HAS ACCOMPLISHED SUCH BENEFICIAL RESULTS? LET US SEE. THE AMOUNT OF MONEY ACTUALLY EXPENDED SINCE 1916, WHILE INSIGNIFICANT WHEN COMPARED TO THE TOTAL ANNUAL BUDGET, HAS BEEN MORE THAN A DROP IN THE BUCKET. APPROPRIATIONS OR AUTHORIZATIONS BY CONGRESS FOR USE UNTIL JUNE 30, 1925, TOTAL $540,000,000. PRACTICALLY ALL OF THIS MONEY HAS BEEN ACTUALLY ALLOTTED AND EXPENDED, AND IN ACCORDANCE WITH ONE OF THE LEADING FEATURES OF THE PLAN, IT HAS BEEN MATCHED DOLLAR FOR DOLLAR BY STATE APPROPRIATIONS. THE ONLY EXCEPTION IS IN THE CASE OF CERTAIN WESTERN STATES HAVING A LARGE AREA OF UNAPPROPRIATED PUBLIC LANDS, ON WHICH NO FEDERAL TAXES ARE PAID, AND IN THAT CASE THE PROPORTION OF CONTRIBUTION REQUIRED ON THE PART OF THE STATE IS REDUCED ACCORDINGLY.

"THIS MONEY HAS BEEN WISELY SPENT IN ACCORDANCE WITH THE CONDITIONS UNDER WHICH THE ROAD IS USED. IN OTHER WORDS, CONCRETE OR MACADAM IS NOT REQUIRED IN ALL SECTIONS OF THE COUNTRY OR IN EVERY PART OF A STATE. IN FACT, NOT ALL HIGHWAYS NEED TO BE HARD SURFACED. THE AMOUNT OF DEVELOPMENT SHOULD DEPEND, OF COURSE, UPON THE NEEDS OF THE PEOPLE WHO TRAVEL OVER THE ROUTE. FOR EXAMPLE, THE GRADING AND DRAINAGE OF AN UNIMPROVED ROAD IS NOT EXPENSIVE; YET SUCH A HIGHWAY IS OFTEN SATISFACTORY AND CAN BE MAINTAINED BY DRAGGING AT A MINIMUM OF EXPENSE. OR A ROAD MAY BE SURFACED WITH HARD CLAY OR GRAVEL AND WITHSTAND A CONSIDERABLE AMOUNT OF TRAVEL, WITH CORRESPONDING BENEFITS TO THE GENERAL PUBLIC. ALL THESE THINGS HAVE BEEN TAKEN INTO CONSIDERATION BY FEDERAL AND STATE AUTHORITIES IN MAKING EXPENDITURE OF THE TAXPAYER'S MONEY FOR HIGHWAY PURPOSES.

"IN ADDITION, FEDERAL AID HAS ACCOMPLISHED TWO RESULTS WHICH, IN MY OPINION, FAR OUTWEIGH THE AMOUNTS ACTUALLY CONTRIBUTED BY THE UNITED STATES FOR SUCH WORK IN THE SEVERAL STATES. FIRST, IT HAS ESTABLISHED A CONNECTED AND COMPREHENSIVE SYSTEM. IT HAS DIRECTED SUCH DEVELOPMENT IN CHANNELS WHERE THE MOST GOOD TO THE GREATEST NUMBER COULD BE OBTAINED. ALMOST FROM THE START, IT WAS RECOGNIZED THAT THERE ARE MAIN ARTERIES OF TRAVEL IN EACH STATE, RUNNING FROM ONE LARGE CITY TO ANOTHER, AND FEEDING THE PRINCIPAL LOCAL ROADS OF EVERY SECTION OF THE STATE. MOREOVER, THERE ARE ROUTES WHICH ARE

ALSO OF INTERSTATE IMPORTANCE, THROUGH ROUTES WHICH ARE PART OF A CHAIN JOINING THE PRINCIPAL COMMUNITIES OF THE NATION AND RUNNING ACROSS THE CONTINENT. TO ENCOURAGE THE IMPROVEMENT OF SUCH ROADS, TO PREVENT THE PEOPLE'S MONEY FROM BEING DRIBBLED AWAY IN SMALL QUANTITIES ON ISOLATED PROJECTS IS ONE OF THE OBJECTS OF THE FEDERAL AID PROGRAM. AS SENATORS KNOW, THE GREATEST POSSIBLE MILEAGE IN THE SYSTEM CAN ONLY BE 7 PER CENT OF THE TOTAL LENGTH OF ROADS IN THE UNITED STATES IN 1921, ACCORDING TO THE PROVISIONS OF THE ACT ITSELF. THUS, THROUGH FEDERAL AID WE BUILD HIGHWAYS WHERE THEY ARE MOST NEEDED. NEARLY EVERY CITY OF 5,000 POPULATION OR MORE IS REACHED BY THIS SYSTEM, AND, AS I HAVE HERETOFORE STATED, 90 PER CENT OF OUR PEOPLE ARE WITHIN 10 MILES OF A FEDERAL AID ROAD.

"THE SECOND BENEFICIAL RESULT TO WHICH I CALL ATTENTION IS ALSO SIGNIFICANT. THE ADOPTION OF THIS PLAN HAS AROUSED THE INTEREST OF THE STATE AND COUNTY AUTHORITIES GENERALLY, SO THAT NOW, REALIZING THE GREAT BENEFITS OF IMPROVED ROADS, THEY ARE DESIROUS OF EXPENDING THEIR ALLOTMENTS OF FEDERAL MONEY OVER THE GREATEST MILEAGE PERMISSIBLE AND OF IMPROVING FEEDER ROUTES TO CONNECT WITH THE MAIN THOROUGHFARES.

"THE MOVEMENT HAS DEVELOPED INTO A GENERAL ROAD CONSTRUCTION PROGRAM, SO THAT AT THE PRESENT TIME THE CONTRIBUTIONS OF THE FEDERAL GOVERNMENT ONLY CONSTITUTE 8 PER CENT OF THE TOTAL ANNUAL EXPENITURES FOR HIGHWAY CONSTRUCTION IN THE ENTIRE COUNTRY.

"WHEN THIS SYSTEM WAS FIRST INTRODUCED IN 1916, 17 OF THE 48 STATES HAD NO HIGHWAY DEPARTMENTS, AND THE FACT THAT EVERYONE OF THEM NOW MAINTAINS SUCH DEPARTMENTS ILLUSTRATES THE HELPFUL AID OF THE FEDERAL GOOD ROADS LAW.

"MR. PRESIDENT, THERE SHOULD BE NO CAUSE TO REGRET THAT THE STATES HAVE EMBARKED ON A PROGRAM OF GOOD-ROAD CONSTRUCTION; THE ONLY PITY IS THAT THEY WERE NOT INDUCED TO BEGIN EARLIER. THERE REMAINS MUCH TO BE ACCOMPLISHED, AS THE DEVELOPMENT OF MOTOR VEHICLES IS STILL IN ADVANCE OF ROAD IMPROVEMENT AND CONSTRUCTION. THEREFORE, THE FEDERAL GOVERNMENT SHOULD CONTINUE TO LEAD THE WAY UNTIL ALL OF THE STATES ON THIS CONTINENT ARE BOUND TOGETHER WITH A NETWORK OF MODERN HIGHWAYS.

"I HAVE ESTABLISHED, I THINK, THE INESTIMABLE VALUE OF GOOD ROADS FROM AN AGRICULTURAL, ECONOMIC, INDUSTRIAL, AND MILITARY STANDPOINT. I HAVE ALSO SHOWN THAT FEDERAL AID HAS BEEN DIRECTLY RESPONSIBLE FOR THE SPLENDID RESULTS OBTAINED IN THIS COUNTRY DURING THE PAST 10 YEARS. IT HAS BEEN DEMONSTRATED THAT, TO BE SUCCESSFUL, THERE MUST BE NO WEAKENING OF THE STRONG RIGHT ARM OF THE GOVERNMENT

IN THIS MATTER, AND THAT THE WORK MUST BE CARRIED TO A CONCLUSION WITH FEDERAL AID, DIRECTION, AND ENCOURAGEMENT. NOW, LET US CONSIDER THE OBJECTIONS WHICH ARE BEING URGED IN SOME QUARTERS TO THE CONTINUANCE OF THE SYSTEM. FOR THIS PLAN HAS ITS ENEMIES, EVEN IN THIS ENLIGHTENED DAY AND AGE. WE CAN NOT SHUT OUR EYES TO THAT FACT.

"FIRST, THERE IS THE CONSTITUTIONAL OBJECTION. IT WAS ORIGINALLY URGED THAT THE UNITED STATES HAD NO AUTHORITY UNDER OUR CONSTITUTION TO BUILD ROADWAYS IN THE SEVERAL STATES OR TO AID IN THEIR CONSTRUCTION. THAT ARGUMENT HAS BEEN COMPLETELY DISSIPATED. THE PROVISIONS OF OUR CONSTITUTION WITH REFERENCE TO NATIONAL POWERS ARE DEFINITE AND CLEAR. ONE CLAUSE IN ITSELF JUSTIFIES THIS TOTAL EXPENDITURE OF PUBLIC FUNDS - THAT WHICH CONFERS THE POWER TO BUILD POST ROADS. EVERYONE OF THESE FEDERAL AID ROUTES CARRIES THE MAIL, AND IT CAN SAFELY BE STATED THAT THERE IS NOT A MILE IN THE ENTIRE SYSTEM WHICH IS NOT A POST ROAD. FURTHERMORE, SUCH POSTAL BENEFITS ARE REAL AND SUBSTANTIAL, AS I HAVE SHOWN, AND ADEQUATELY ANSWER THE CONSTITUTIONAL OBJECTION WHICH HAS BEEN RAISED TO THE PROGRAM.

"AMONG OTHER CLAUSES IN THE CONSTITUTION WHICH MIGHT PROPERLY BE APPLIED TO THIS PROPOSITION, TAKE, FOR EXAMPLE, THAT PORTION OF ARTICLE I WHICH AUTHORIZES CONGRESS TO PROVIDE 'FOR THE COMMON DEFENSE AND GENERAL WELFARE OF THE UNITED STATES,' PRACTICALLY THE SAME LANGUAGE BEING CONTAINED IN THE PREAMBLE. WHAT CAN BE CLEARER THAN THE FACT THAT THE CONSTRUCTION OF GOOD ROADS IS A WISE MEASURE OF DEFENSE OR THAT IT PROMOTES THE GENERAL WELFARE? TAKE, AGAIN, THE CLAUSE WHICH DELEGATES THE POWER 'TO REGULATE COMMERCE WITH FOREIGN NATIONS AND AMONG THE SEVERAL STATES.' DURING THE YEAR 1925 THE UNITED STATES SUPREME COURT HANDED DOWN THREE DECISIONS ALL OF WHICH RULED AGAINST STATES WHICH ATTEMPTED TO CONTROL COMMERCE OVER INTERSTATE HIGHWAYS, THE REASON ASSIGNED BEING THAT SUCH ACTION CONTRAVENED THE COMMERCE CLAUSE OF OUR CONSTITUTION. THE CITATIONS ARE AS FOLLOWS: MICHIGAN PUBLIC UTILITIES COMMISSION, V. DUKE (266 U.S. 571); A. J. BUCK V. E. B. KUYKENDALL (267 U.S. 307); AND GEORGE W. BUSH & SONS CO. V. WILLIAM M. MALOY AND OTHERS, CONSTITUTING THE PUBLIC SERVICE COMMISSION OF MARYLAND (267 U.S. 317). BUT ENOUGH HAS BEEN SAID TO SHOW THAT FEDERAL HIGHWAY AID MEETS ALL CONSTITUTIONAL REQUIREMENTS AND THAT NO VALID OBJECTION CAN BE MADE AGAINST THE SYSTEM ON THAT GROUND.

"A SOMEWHAT SIMILAR QUESTION IS INVOLVED WHEN IT IS SUGGESTED THAT THIS PLAN, WHICH HAS BEEN IN OPERATION FOR 10 YEARS, CONFLICTS WITH STATE RIGHTS. AGAIN THE MATTER OF PUBLIC POLICY IS BROUGHT FORWARD, AND IT IS INSISTED THAT IT IS THE RIGHT AS WELL AS THE DUTY OF A STATE TO CONSTRUCT, MAINTAIN, AND IMPROVE ALL THE ROADS WITHIN

ITS BOUNDARIES. FOR MY PART I HAVE BECOME CONVINCED THAT THIS IS A JOINT DUTY AND THAT THE MATTER IS TOO FAR-REACHING FROM EVERY POINT OF VIEW TO PLACE FULL RESPONSIBILITY EITHER UPON THE INDIVIDUAL STATES OR THE FEDERAL GOVERNMENT. IF HISTORICAL PRECEDENT IS DESIRED, I COULD QUOTE THOMAS JEFFERSON, THE ADVOCATE OF STATE RIGHTS, WHO ON MANY OCCASIONS URGED THE USE OF PUBLIC MONEY TO OPEN ROADS, RIVERS, AND CANALS. OR I COULD POINT TO ALEXANDER HAMILTON, THE FEDERALIST, WHO CHARACTERIZED ROAD BUILDING AS AN OBJECT WELL WORTHY OF THE NATIONAL PURSE AND WHO INSISTED THAT TO PROVIDE ROADS AND BRIDGES WAS WITHIN THE DIRECT PURVIEW OF THE CONSTITUTION. I COULD SUMMON AS WITNESSES HENRY CLAY, JOHN C. CALHOUN, AND THAT GREAT EXPOUNDER OF THE CONSTITUTION HIMSELF, DANIEL WEBSTER, ALL OF WHOM, WITH BROAD VISION AND NOBLE FORESIGHT, URGED COOPERATIVE ROAD BUILDING BETWEEN THE STATES AND THE CENTRAL GOVERNMENT,

"BESIDES, AS A PRACTICAL MATTER, THERE HAS BEEN NO BANEFUL COERCION, NO UNDUE INFLUENCE EXERTED BY THE FEDERAL GOVERNMENT UPON THE STATES IN THE SELECTION OF HIGHWAYS OR THE ACTUAL PERFORMANCE OF THE WORK. I CHALLENGE THOSE WHO OBJECT TO THE SYSTEM ON PRINCIPLE TO CITE ANY CASE OF CONSEQUENCE WHERE THE STATE'S PREROGATIVES HAVE BEEN ASSAILED OR THE WILL OF THE PEOPLE THWARTED. STATE HIGHWAY OFFICIALS ARE MAKING NO COMPLAINT. THE BUREAU HAS GONE ABOUT ITS WORK IN A FAIR-MINDED, SYSTEMATIC MANNER, AND THERE HAS BEEN NOTHING CAPRICIOUS OR ARBITRARY IN ITS DECISIONS. IN OTHER WORDS, THE INTENT AND PURPOSE OF THE ACT HAS BEEN CARRIED OUT. THERE HAS BEEN FULL COOPERATION AS TO THE ROADS SELECTED AND THE CONSTRUCTION WORK ACCOMPLISHED. MILLIONS HAVE BEEN SAVED THROUGH COOPERATION AND THE INTERCHANGE OF PRACTICAL INFORMATION. THE BUREAU HAS ENCOURAGED THE ESTABLISHMENT OF TESTING LABORATORIES IN THE VARIOUS STATES, WITH THE RESULT THAT THE NUMBER OF STATES BOASTING SUCH FACILITIES HAS INCREASED FROM 5 TO 44 DURING THE PAST NINE YEARS. TRULY, BOTH POLITICAL PARTIES WERE WISE WHEN THEY INCLUDED IN THE NATIONAL PLATFORMS OF THE LAST CAMPAIGN DEFINITE PLEDGES FOR THE CONTINUANCE OF THE POLICY OF FEDERAL AID.

"NOW, MR. PRESIDENT, WE COME TO AN OBJECTION WHICH I DISLIKE TO MENTION. I DO NOT THINK IT HAS BEEN VOICED ON THIS FLOOR. I HOPE NOT. BUT IT HAS BEEN BANDIED ABOUT IN OTHER PLACES, OF THAT WE MAY BE SURE. EVEN HIGH OFFICIALS IN A FEW EASTERN STATES HAVE BROUGHT FORWARD THE ARGUMENT, AND SOME PERIODICALS PRINTED IN THE MORE POPULOUS SECTIONS OF OUR COUNTRY HAVE TAKEN UP THE HUE AND CRY. BRIEFLY, IT IS THAT SOME STATES ARE POOR; OTHERS RICH; SOME STATES CONTRIBUTE SMALL AMOUNTS TO THE UNITED STATES TREASURY; OTHERS PAY HEAVILY TOWARD THE TOTAL SUM OF FEDERAL EXPENSES; AND THAT IT IS THEREFORE GROSSLY UNFAIR TO TAX THE OLDER, RICHER, MORE POPULOUS STATES FOR ROAD CONSTRUCTION IN ANY OTHER PART OF THE UNION. THAT

IS THE ARGUMENT, MR. PRESIDENT, IN A NUTSHELL. THAT IS ALL THERE IS TO IT. THINK OF IT. THE OPPONENTS OF STATE AID CAN NOT DENY THAT THE POSTAL PATRON IS IMMEASURABLY BENEFITED; THEY CAN NOT GAINSAY THAT THE MILITARY ARM IS STRENGTHENED IN DEFENSE; THEY CAN NOT QUESTION THAT INTERSTATE COMMERCE IS FACILITATED; THEY DO NOT CONTRADICT WHAT HAS BEEN SAID AS TO SUBSTANTIAL BENEFITS OBTAINED BY THE FARMER, THE CITY DWELLER, THE TRAVELER, THE MANUFACTURER, AND THE CONSUMER; IN SHORT, BY ALL OUR CITIZENS. THEY ARE FORCED TO ADMIT THAT ALL THESE WORTH-WHILE RESULTS FLOW FROM FEDERAL HIGHWAY AID. ALL THEY SAY IS THAT, NOTWITHSTANDING THESE BENEFITS, SUCH APPROPRIATIONS SHOULD BE FORTHWITH ABOLISHED BECAUSE COLORADO, FOR EXAMPLE, WITH ITS EXPANSE OF TERRITORY, ITS VIRGIN SOIL, ITS HUGE AMOUNT OF PUBLIC LANDS, IT THOUSANDS OF SQUARE MILES OF NATIONAL FORESTS AND NATIONAL PARKS, ITS POTENTIAL, BUT NOT IMMEDIATELY AVAILABLE, WEALTH, DOES NOT PAY AS GREAT A FEDERAL TAX AS THE SMALLER, OLDER, AND RICHER STATE OF MARYLAND.

"PARENTHETICALLY I MAY REMARK THAT FOR THE YEAR 1924 COLORADO PAID IN FEDERAL TAXES A TOTAL OF $15,228,037.25, WHEREAS FEDERAL HIGHWAY AID EXTENDED TO THAT STATE DURING THE SAME YEAR ONLY AMOUNTED TO $981,444.53, A RATIO OF ABOUT 16 TO 1. POSSIBLY OPPONENTS OF THE PLAN MAY OBJECT TO STATING THEIR ARGUMENT SO BADLY. YET WHAT ELSE CAN BE THE PURPOSE OF COMPILING AND PRINTING LONG TABLES WHICH COMPARE FEDERAL INCOME TAX PAYMENTS IN THE SEVERAL STATES AS AGAINST THE AMOUNT OF FEDERAL HIGHWAY AID RECEIVED BY SUCH STATES, OR OTHER TABLES SHOWING TOTAL REVENUE PAYMENTS IN EACH STATE.

"LET US EXAMINE THIS ARGUMENT FOR A MOMENT. LET US SEE HOW FAIRLY THESE GENTLEMEN PRESENT THEIR CASE AND WHAT REASONS THEY ADVANCE FOR THEIR CONTENTION THAT THE WEST AND SOUTH ARE THE RECIPIENTS OF SPECIAL PRIVILEGE AT THE EXPENSE OF THE NORTHEASTERN SECTION OF THE COUNTRY. MUCH IS MADE OF THE FACT THAT HUGE INCOME TAXES ARE PAID IN THE EAST. THESE TABULATIONS ARE SUBMITTED BY THE OPPONENTS OF STATE AID, AND IT IS SAID THAT THEY AFFORD AN EXCELLENT BASIS OF COMPARISON, AND THAT FROM THE AMOUNT OF SUCH TAXES PAID IN EACH STATE WE CAN DETERMINE THE CONTRIBUTION OF ITS PEOPLE TO THE EXPENSES OF THE FEDERAL GOVERNMENT AND THE PROPORTION, I ASSUME, IN WHICH THAT MONEY SHOULD BE DOLED BACK TO THE SEVERAL STATES. GREAT EMPHASIS IS LAID UPON THIS FACT - FOR IT IS A FACT - THAT THE BULK OF FEDERAL INCOME TAXES ARE PAID IN SUCH STATES AS NEW YORK AND PENNSYLVANIA. THE FORMER, FOR EXAMPLE, SHOULD BE CREDITED WITH 28.8 PER CENT OF THE TOTAL INTERNAL REVENUE COLLECTED BY THE UNITED STATES, AND 15 STATES IN ALL APPARENTLY CONTRIBUTE OVER 80 PER CENT OF THE ENTIRE AMOUNT RECEIVED FROM SUCH SOURCES. BUT THOSE WHO ADVANCE THIS ARGUMENT DELIBERATELY SHUT THEIR EYES

TO WHAT THE TREASURY DEPARTMENT ITSELF SAYS ABOUT THESE COLLECTIONS, WHICH IS AS FOLLOWS:

"'THE AMOUNTS DO NOT REPRESENT, HOWEVER, WHAT MAY BE CALLED THE GEOGRAPHICAL DISTRIBUTION OF INCOME. THE FIGURES ARE COMPILED FROM THE RETURNS FILED IN EACH STATE. AN INDIVIDUAL FILES HIS INCOME TAX RETURN IN THE COLLECTION DISTRICT IN WHICH HIS LEGAL RESIDENCE OR PRINCIPAL PLACE OF BUSINESS IS LOCATED, AND A CORPORATION FILES ITS INCOME TAX RETURN IN THE COLLECTION DISTRICT IN WHICH ITS PRINCIPAL PLACE OF BUSINESS OR THE PRINCIPAL OFFICE OR AGENCY IS LOCATED. CONSEQUENTLY, INCOME REPORTED BY AN INDIVIDUAL OR CORPORATION IN ONE STATE MAY HAVE BEEN DERIVED FROM SOURCES IN OTHER STATES. FROM THE FOREGOING IT WILL BE CLEAR THAT THERE IS NO WAY OF ASCERTAINING FROM THE INCOME TAX RETURNS THE AMOUNT OF INCOME EARNED IN THE RESPECTIVE STATES OR THE AMOUNT OF TAX PAID ON THAT BASIS.'

"A FEW EXAMPLES, IN MY OPINION, COMPLETELY DEMOLISH THIS ARGUMENT THAT INCOME-TAX PAYMENTS DETERMINE THE AMOUNT OF CONTRIBUTIONS MADE BY EACH COMMUNITY TO THE FEDERAL TREASURY. TAKE THE STATE OF NEW YORK. IF THERE IS ANYTHING TO THE CONTENTION, CERTAINLY PERSONAL TAXES SHOULD REPRESENT MONEY EARNED OR INHERENT WEALTH EXISTING IN THE COMMONWEALTH ITSELF. YET ONE OF THOSE PERSONAL-TAX RETURNS IS IN THE SUM OF $[illegible],000,000 PAID BY MR. ROCKFELLER, AND IT SEEMS TO ME, WHATEVER OPPONENTS OF STATE AID MAY THINK, THAT THIS CONSISTS OF EARNINGS COLLECTED FROM MANY SOURCES IN MANY STATES.

"HOW ABOUT CORPORATIONS WHICH PAY THEIR INCOME TAXES IN NEW YORK BECAUSE THEIR PRINCIPAL OFFICE IS LOCATED THERE. HERE ARE A FEW ILLUSTRATIONS. THE UNION PACIFIC RAILROAD PAID A YEAR OR SO AGO FEDERAL INCOME TAXES AMOUNTING TO $4,500,000, BUT THE ROAD DOES NOT EARN ONE CENT IN THAT STATE. ITS NEAREST OPERATING POINTS ARE HALF WAY ACROSS THE CONTINENT, AT OMAHA, NEBR., AND KANSAS CITY, KANSAS. THE SOUTHERN PACIFIC PAYS $5,000,000 OR MORE IN INCOME TAXES, BUT ITS NEAREST STATION IS AT NEW ORLEANS. THE UNITED STATES STEEL CORPORATION PAYS ITS TAX IN NEW YORK, BUT ONLY TWO OF ITS 145 PLANTS AND WAREHOUSES ARE SITUATED IN THAT STATE, AND ITS 153,000 STOCKHOLDERS ARE SCATTERED THROUGHOUT EVERY STATE OF THE UNION. THERE ARE MANY OTHER BUSINESS CONCERNS WHICH MAKE SIMILAR PAYMENTS, AND ACCORDING TO THOSE WHO OPPOSE FEDERAL HIGHWAY AID SUCH COMPANIES CAN PROPERLY CLAIM TO BE CONTRIBUTING NEW YORK MONEY FROM NEW YORK RESOURCES TO THE UNITED STATES GOVERNMENT. HERE ARE A FEW NAMES, TAKEN AT RANDOM FROM THE LIST. I WITHHOLD COMMENT. SENATORS MAY JUDGE FOR THEMSELVES AS TO THE FAIRNESS OF THE ARGUMENT: AMERICAN RAILWAY EXPRESS, AMERICAN BEET SUGAR CO., AMERICAN SMELTING & REFINING CO., AMERICAN TELEPHONE & TELEGRAPH CO., AMERICAN TOBACCO CO., NATIONAL BISCUIT CO., POSTUM CEREAL CO., SINCLAIR CONSOLIDATED OIL CORPORATION, UTAH COPPER CO., THE WOOLWORTH CO., AND THE WESTERN UNION TELEGRAPH CO.

"WHY DO THOSE WHO OPPOSE STATE AID, HONEST AS THEIR INTENTIONS ARE, PERSIST IN DECEIVING THEMSELVES AND THE PUBLIC? THE NUB OF THE MATTER, THE REAL EXPLANATION IS, OF COURSE, THAT THE NATURAL RESOURCES OF OTHER STATES - THE MINES OF COLORADO, THE OIL WELLS OF WYOMING, THE WHEAT FIELDS OF IOWA, THE COTTON PLANTATIONS OF GEORGIA, THE CATTLE OF IDAHO, IN SHORT THE NATURAL AND MANUFACTURED PRODUCTS OF EVERY STATE - MAKE UP, TO A LARGE EXTENT, THE INCOME TAX WHICH THE NEW YORK MAN OR THE NEW YORK CORPORATION PAYS TO THE UNITED STATES GOVERNMENT.

"THOSE WHO ADVANCE THIS FALLACIOUS ARGUMENT GO A STEP FURTHER AND SPEAK SNEERINGLY OF STATES WHICH ARE WILLING TO BE 'SUBSIDIZED' BY THE FEDERAL GOVERNMENT. THAT IS WHAT THEY CALL THIS AID - A SUBSIDY. OF COURSE, THERE IS NO CASE ON RECORD OF ANY STATE REFUSING TO ACCEPT ITS PROPORTION OF FEDERAL HIGHWAY AID WHEN AVAILABLE, NO MATTER HOW WEALTHY THAT STATE MIGHT BE NOR HOW WRONG, IN PRINCIPLE, ITS OFFICIALS MIGHT COUNSIDER THE SYSTEM; BUT NEVERTHELESS IT IS INSISTED THAT SOUTHERN AND WESTERN STATES, THESE RECIPIENTS OF 'SPECIAL PRIVILEGE,' IF YOU PLEASE, ARE INSISTING ON A WICKED SUBSIDY FROM THE FEDERAL GOVERNMENT.

"I MUST REMIND SENATORS THAT, FOR MANY OTHER PURPOSES NOT AS USEFUL AS GOOD ROADS, NOT AS UNIVERSALLY BENEFICIAL IN THEIR RESULTS, FEDERAL AID HAS BEEN EXTENDED TO THE STATES OR TO CERTAIN SECTIONS OF THE COUNTRY, WITH LITTLE OR NO PROTEST ON THE PART OF THOSE WHO DERIVE NO BENEFIT THEREFROM. FOR EXAMPLE, TAKE OUR ANNUAL RIVER AND HARBOR APPROPRIATIONS, INCLUDING FLOOD CONTROL. FOR THE PERIOD OF 10 YEARS FROM 1916 TO 1925, INCLUSIVE - THE SAME LENGTH OF TIME DURING WHICH HIGHWAY AID HAS BEEN EXTENDED TO THE STATES - SUCH RIVER AND HARBOR APPROPRIATIONS HAVE TOTALED $454,000,000 FOR EXPENDITURE IN A LIMITED NUMBER OF STATES; WHEREAS THE APPROPRIATIONS FOR GOOD ROADS, AMOUNTING TO $540,000,000, WERE DISTRIBUTED OVER THE ENTIRE 48 STATES OF THE UNION.

"I AM WILLING TO ADMIT THAT IMPROVEMENT IN OUR NATIONAL COMMERCE AIDS THE WHOLE COUNTRY AND THEREFORE THE STATE WHICH I REPRESENT, IN PART, IN THIS BODY. YET NOT 1 CENT FOR RIVER AND HARBOR WORK IS EXPENDED IN COLORADO, WHICH DOES NOT HAVE A SINGLE NAVIGABLE STREAM WITHIN ITS BOUNDARIES OR ON ITS BORDERS AND IS A THOUSAND MILES AWAY FROM THE NEAREST HARBOR. BUT GOOD-ROADS OPPONENTS EXCLAIM: 'THAT IS ENTIRELY DIFFERENT. THERE IS NO RELATION BETWEEN THESE MEASURES.' ON MY PART I FAIL TO SEE ANY DIFFERENCE IN PRINCIPLE, AND, SO FAR AS ACTUAL BENEFITS TO THE PUBLIC ARE CONCERNED, ANY COMPARISON IS DECIDEDLY IN FAVOR OF THE GOOD-ROADS PROGRAM. AS TO THE SYSTEM ITSELF, THERE IS THIS DISTINCTION THAT FEDERAL AID ROADS ARE BUILT ON A 50-50 BASIS, WHEREAS RIVER AND

HARBOR WORK IS OFTEN DONE ENTIRELY AT THE EXPENSE OF THE FEDERAL GOVERNMENT. OUR OPPONENTS CAN DERIVE LITTLE AID OR COMFORT OUT OF THAT, FOR AGAIN THE COMPARISON IS IN FAVOR OF GOOD ROADS.

"TAKE, AGAIN, ONE SINGLE PROJECT, WHICH IS NOT INCLUDED IN THE ABOVE FIGURES. I REFER TO THE PANAMA CANAL, AN UNDERTAKING WHICH ORIGINALLY COST $379,000,000, MUCH MORE THAN HALF OUR TOTAL FEDERAL HIGHWAY EXPENDITURES TO DATE. INCIDENTALLY THE MAINTENANCE COST RUNS OVER HALF A MILLION DOLLARS EACH YEAR. THE CANAL HAS REDUCED TRANSPORTATION CHARGES FROM COAST TO COAST, BUT IT HAS NOT HELPED THE RATE SITUATION IN THE MIDDLE WEST. IN FACT, IT HAS HAD THE CONTRARY EFFECT AND, BY REASON OF THE EXTREMELY LOW WATER RATE FROM THE EAST, HAS CLOSED PACIFIC COAST MARKETS TO MANY COMMODITIES FORMERLY SHIPPED FROM COLORADO, NEBRASKA, AND OTHER STATES SIMILARLY SITUATED. THAT IS A STORY IN ITSELF, WHICH I HAVE DISCUSSED IN MORE DETAIL IN CONNECTION WITH ANOTHER LEGISLATIVE PROPOSAL, THE GOODING LONG AND SHORT HAUL BILL. THE POINT I AM NOW MAKING IS THAT EASTERN STATES, WHICH ARE NOW REAPING RICH BENEFITS BECAUSE OF THE SHIPMENT OF THEIR COMMODITIES THROUGH THE PANAMA CANAL, SHOULD BE THE LAST TO COMPLAIN ABOUT FEDERAL AID TO ANOTHER MEANS OF TRANSPORTATION WHICH BENEFITS NOT ONLY THE WEST AND THE SOUTH, BUT ALSO THE ENTIRE COUNTRY.

"BUT WHY ADD ILLUSTRATION UPON ILLUSTRATION? THE WEST DOES NOT BEGRUDGE FEDERAL APPROPRIATIONS FOR RIVER AND HARBOR IMPROVEMENTS OR FOR SIMILAR PURPOSES. DOUBT HAS OCCASIONALLY BEEN EXPRESSED AS TO THE PRACTICAL BENEFITS FLOWING FROM CERTAIN SPECIFIC PROJECTS, BUT WHEN THE PUBLIC NEED IS ONCE DISCLOSED WESTERN REPRESENTATIVES ARE AMONG THE FIRST TO APPROVE SUCH EXPENDITURES. ALL WE ASK, MR. PRESIDENT, IS THAT STATES WHICH HAVE THEMSELVES RECEIVED SUCH BOUNTIES FOR LO, THESE MANY YEARS, WHICH HAVE GROWN RICH THROUGH THE DEVELOPMENT OF THEIR NATURAL RESOURCES MADE POSSIBLE BY RIVERS AND HARBORS AND RAILROADS, AND THROUGH THE CONTRIBUTIONS OF THE PEOPLE OF ALL THE STATES, SHOULD VIEW OUR PRESENT REQUIREMENTS IN THE SAME BROAD-MINDED MANNER AND THAT THEY SHOULD GIVE SOME HEED TO THE NEED FOR A COMPREHENSIVE HIGHWAY SYSTEM THROUGHOUT THE ENTIRE COUNTRY.

"AT THIS TIME IN OUR HISTORY, AFTER SO MUCH HAS BEEN ACCOMPLISHED WITH FEDERAL AID IN CERTAIN SECTIONS OF THE COUNTRY, IT WILL HARDLY DO FOR REPRESENTATIVES OF THOSE SECTIONS TO RAISE PIOUS HANDS IN HOLY HORROR AT THE GRANTING OF AN ALLEGED SUBSIDY WHICH WILL BE OF IMMEASURABLE VALUE IN THE DEVELOPMENT OF NATURAL RESOURCES IN OTHER PORTIONS OF OUR GREAT LAND.

"Mr. President, it should not be necessary for me to state that this is not a sectional question in any sense of the word and that I am not pleading for the West or South as against the East. Neither am I pleading for National rights as against State rights. There is no real question of sectionalism or sovereign rights involved in this issue. To forget State lines in matters of this kind is not only good statesmanship; it is also good business. All must prosper or the whole Nation suffers. That which aids conditions in the agricultural, stock-raising, or mining sections brings increased business to the manufacturing and shipping centers. Factional strife, petty jealousies, and internal discord destroy public confidence in all industrial and agricultural pursuits and spell decay instead of progress.

"In this connection, Mr. President, I desire to quote the words of Calvin Coolidge, our great national leader, the apostle of economy:

" 'No expenditure of public money contributes so much to the national wealth as for building good roads. Highways and refore-station should continue to have the interest and support of the Government.'

"I ask Senators to consider this country as a whole, to picture to themselves the ever-growing importance of good roads, to visualize our enormous highway needs during the next 10 years, to view this question with the same fairness and broad-mindedness which they have displayed on other issues, and to help in building, for the immediate future, a greater, better, and more glorious United States of America."

TWO UNUSUAL FEDERAL AID PROJECTS

CONTRIBUTED BY THE DIVISION OF DESIGN.

TWO FEDERAL-AID PROJECTS OF MORE THAN USUAL INTEREST HAVE RECENTLY BEEN APPROVED BY THE SECRETARY OF AGRICULTURE.

ARKANSAS-TENNESSEE FEDERAL-AID PROJECT NO. 300 INVOLVES THE CONSTRUCTION OF THE SO-CALLED HARAHAN BRIDGE AND VIADUCT OVER THE MISSISSIPPI RIVER BETWEEN THE CITY OF MEMPHIS, TENNESSEE, AND CRITTENDEN COUNTY, ARKANSAS. THE EXISTING BRIDGE, WHICH IS A COMBINATION HIGHWAY AND RAILROAD STRUCTURE, WAS COMPLETED IN 1916 AND IS THE ONLY STRUCTURE CROSSING THE MISSISSIPPI RIVER SOUTH OF ST. LOUIS. THIS BRIDGE WILL BE RECONSTRUCTED TO GIVE A WIDER HIGHWAY ROADWAY AND A NEW VIADUCT WILL BE BUILT ON THE ARKANSAS SIDE. THE LENGTH OF THE PROJECT IS 3.58 MILES AND THE ESTIMATED COST OF THE IMPROVEMENT IS $1,164,000.

NEW JERSEY FEDERAL-AID PROJECT NO. 81 IS THE MOST COSTLY PROJECT EVER SUBMITTED TO THE BUREAU. THIS PROJECT IS 3.68 MILES LONG AND IS ESTIMATED TO COST OVER $17,000,000. THE IMPROVEMENT INVOLVES THE CONSTRUCTION OF AN APPROACH HIGHWAY TO THE NEW VEHICULAR TUNNEL UNDER THE HUDSON RIVER BETWEEN WEEHAWKEN, NEW JERSEY, AND NEW YORK CITY. THE PROPOSED WORK WILL CONSIST OF HEAVY CUTS AND FILLS, VIADUCTS OVER THE SWAMPS, BRIDGES OVER THE HACKENSACK AND PASSAIC RIVERS, AND THE ELIMINATION OF SEVERAL RAILROAD GRADE CROSSINGS. THE TRAFFIC WHICH WILL USE THIS PROJECT IS ESTIMATED TO EXCEED 50,000 VEHICLES PER DAY, AND THE PROPOSED ROADWAY WIDTH IS 48½ FEET.

FACILITIES OF STATE HIGHWAY TESTING LABORATORIES

STATE	LABORATORY					MATERIALS														
	LOCATION	IN CHARGE	DATE ESTABLISHED	APPROX NO OF EMPLOYEES '25	APPROX NO. OF TESTS 1925	BITUMINOUS MATERIALS	BITUMINOUS MIXTURES	PAVING BRICK	CEMENT	CONCRETE	CULVERT PIPE COR METAL	CULVERT PIPE CONC. ETC	DRAIN TILE	GRAVEL	PAINT	ROCK	SAND	SAND CLAY TOP SOIL	SLAG	STEEL
ALABAMA	COML. LABORATORY																			
ARKANSAS	FAYETTEVILLE	W. R. SPENCER	1924	1	3000	●	●	●	●	●	○	●	●	●	○	●	●	◐	●	●
ARIZONA	PHOENIX	J. W. POWERS	1921	4	1200	◐	●	◐	●	●	◐	○	○	●	○	●	●	●	●	●
CALIFORNIA	SACRAMENTO	C. L. McKESSON	1912	16	8600	●	●	○	●	◐	●	○	○	●	●	●	●	◐	○	●
COLORADO	COML. & UNIV. LABS.																			
CONNECTICUT	PORTLAND	F. G. FLOOD	1925	1	1500	●	●	◐	●	●	◐	●	●	●	●	●	●	●	●	●
DELAWARE	DOVER	R. SCHMITZ	1917	3	3000	○	○	◐	●	●	○	○	○	●	○	●	●	●	●	●
FLORIDA	GAINESVILLE	H. A. HALL	1917	4	3000	●	●	●	●	◐	●	○	○	●	●	●	●	●	●	◐
GEORGIA	EAST POINT	J. E. BOYD	1924	6	6030	◐	●	◐	●	●	●	●	○	●	●	●	●	◐	●	●
IDAHO	MOSCOW	J. L. HEMMERT	1919	1	560	●	●	◐	●	●	◐	○	○	●	○	●	●	●	●	●
ILLINOIS	SPRINGFIELD	V. L. GLOVER	1911	26	16000	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●
INDIANA	INDIANAPOLIS	P. D. MIESENHELDER	1921	21	60000	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
IOWA	AMES	R. W. CRUM	1919	4	1271	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
KANSAS	MANHATTAN	C. H. SCHOLER	1917	8	1700	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●
KENTUCKY	LEXINGTON	D. V. TERRELL	1915	6	4300	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
LOUISIANA	BATON ROUGE	J. H. BATEMAN	1925	4	532	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MAINE	ORONO	H. W. LEAVITT	1914	3	1515	●	○	◐	●	●	●	◐	○	●	○	●	●	●	●	●
MARYLAND	BALTIMORE	F. C. ROSSELL	1916	2	1500	●	●	○	●	●	◐	○	○	●	●	●	●	○	●	○
MASSACHUSETTS	BOSTON	A. V. BRATT	1921	4	1500	●	●	◐	●	●	◐	●	●	●	●	●	●	○	●	●
MICHIGAN	ANN ARBOR	R. L. MORRISON	1913	20	7085	●	●	●	●	●	◐	●	●	●	○	●	●	●	●	●
MINNESOTA	MINNEAPOLIS	F. C. LANG	1919	15	4000	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MISSISSIPPI	COML. LABORATORY																			
MISSOURI	JEFFERSON CITY	F. V. REAGEL	1923	15	10000	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MONTANA	HELENA	W. O. KIVLEY	1919	1	210	◐	○	○	●	◐	◐	○	○	◐	○	◐	●	◐	◐	◐
NEBRASKA	LINCOLN	C. M. DUFF	1900	4	2580	◐	●	●	●	●	◐	●	●	●	○	●	●	●	●	●
NEVADA	CARSON CITY	W. T. HOLCOMB	1918	2	850	●	●	●	●	●	●	●	●	●	●	◐	●	●	●	◐
NEW HAMPSHIRE	CONCORD	W. F. PURRINGTON	1917	3	2000	●	●	◐	●	●	●	●	●	●	●	●	●	●	●	●
NEW JERSEY	TRENTON	R. B. GAGE	1909	45	12000	●	●	●	●	●	◐	●	●	●	●	●	●	◐	●	●
NEW MEXICO	LAS CRUCES	F. L. WEEKS	1924	4	1300	○	○	◐	●	●	◐	●	●	●	○	●	●	●	●	●
NEW YORK	ALBANY	P. SCHULTZE	1909	13	11430	●	●	○	●	●	●	●	●	●	●	●	●	○	●	●
NORTH CAROLINA	RALEIGH	R. T. GILES	1921	25	4000	●	●	○	●	●	●	●	●	●	●	●	●	●	○	●
NORTH DAKOTA	BISMARK	H. G. GROVES	1923	2	820	○	○	○	●	●	◐	●	●	◐	○	◐	●	○	○	○
OHIO	COLUMBUS	A. S. REA	1909	10	15000	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
OKLAHOMA	OKLAHOMA CITY	F. HERRMANN	1924	10	7000	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●
OREGON	SALEM	N. M. FINKBINER	1919	3	2000	◐	●	○	●	●	●	●	●	●	●	●	●	◐	○	◐
PENNSYLVANIA	HARRISBURG	H. S. MATTIMORE	1914	59	30000	●	●	●	●	●	●	●	●	●	●	●	●	○	●	●
RHODE ISLAND	PROVIDENCE	J. V. KEILY	1922	3	2000	●	●	○	●	●	◐	○	○	●	○	●	●	◐	◐	●
SOUTH CAROLINA	COLUMBIA	A. E. WARREN	1923	2	5000	●	●	◐	●	●	●	●	●	◐	●	●	●	●	●	●
SOUTH DAKOTA	PIERRE	C. J. LOOMER	1921	2	500	○	○	○	●	○	◐	○	○	◐	○	◐	●	◐	○	○
TENNESSEE	NASHVILLE	O. H. HANSARD	1920	30	12000	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●
TEXAS	AUSTIN	H. R. THOMAS	1914	4	2400	●	●	◐	●	●	●	●	●	●	●	●	●	●	●	●
UTAH	SALT LAKE CITY	L. MUIR	1919	6	3000	●	●	●	●	●	◐	●	●	●	●	●	●	●	●	●
VERMONT	MONTPELIER	R. I. ROWELL	1925	2	650	●	●	◐	●	●	○	○	●	●	●	●	●	◐	●	●
VIRGINIA	RICHMOND	S. CLARK	1920	10	3050	●	●	◐	●	●	●	●	●	●	●	◐	●	●	●	●
WASHINGTON	OLYMPIA	B. TREMPER	1921	3	3000	●	●	◐	●	●	●	●	●	●	●	●	●	◐	●	●
WEST VIRGINIA	MORGANTOWN	R. B. DAYTON	1919	9	3500	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
WISCONSIN	MADISON	G. F. DAGGETT	1925	10	5000	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
WYOMING	CHEYENNE	W. A. NORRIS	1919	3	980	◐	●	◐	●	●	●	○	●	●	○	●	●	◐	○	●

LEGEND: LABORATORY NOT EQUIPPED = ( ) PARTIALLY EQUIPPED = ◐ FULLY EQUIPPED = ●

UNITED STATES HIGHWAYS SIGNS ORDERED BY 17 STATES

CONTRIBUTED BY THE DIVISION OF DESIGN

THE COMPLETE SET OF WORKING DRAWINGS FOR THE MANUFACTURE OF THE UNITED STATES HIGHWAYS SIGNS COMPRISES APPROXIMATELY 155 SHEETS AT THIS TIME. SPECIAL DESIGNS - SUCH AS, WINDING ROAD, ARTERIAL HIGHWAY STOP OR R.R. STOP STATE LAW - ARE MADE WHEN THE INDIVIDUAL STATE HIGHWAY DEPARTMENTS SO REQUEST. TO DATE COMPLETE OR PARTIAL SETS OF THE DRAWINGS HAVE BEEN DISTRIBUTED AS FOLLOWS:

STATE HIGHWAY DEPARTMENTS	48
U. S. FOREST SERVICE	1
REGIONAL OFFICE AND DISTRICT ENGINEERS	8
AUTOMOBILE CLUBS	2
NATIONAL SAFETY COUNCIL	1
INDUSTRIAL CONCERNS	45
INTERNATIONAL DIPLOMATIC CONFERENCE ON HIGHWAY TRAFFIC IN PARIS	1
TRAFFIC SAFETY EXHIBIT, VIENNA, AUSTRIA	1

FOURTEEN STATES - GEORGIA, SOUTH CAROLINA, MISSISSIPPI, LOUISIANA, ARKANSAS, OKLAHOMA, NEW MEXICO, NEBRASKA, MISSOURI, KANSAS, MAINE, MASSACHUSETTS, IDAHO, AND CONNECTICUT - HAVE ALREADY AWARDED CONTRACTS OR ADVERTISED FOR BIDS FOR THEIR SIGNS AND THREE STATES - WISCONSIN, INDIANA AND OHIO - WILL MANUFACTURE A LARGE PROPORTION OF THEIR OWN SIGNS. SEVENTEEN STATES, THEREFORE, WILL BE AT WORK ON THEIR SIGNING PROGRAM DURING THE PRESENT YEAR.

MUNICIPAL AND PARK AUTHORITIES HAVE MANIFESTED A GREAT DEAL OF INTEREST IN THE STANDARDIZATION OF HIGHWAY MARKERS. IN FACT, THE DEMAND FOR SIGNS OF THIS CHARACTER HAS BEEN SUCH THAT A SET OF MARKERS IN REDUCED SIZES HAS BEEN MADE AND IS READY FOR DISTRIBUTION.

COPIES OF THE TENTATIVE SPECIFICATIONS AS PROPOSED BY THE JOINT BOARD COVERING FABRICATION AND FINISHING OF THE ROAD SIGNS IN WOOD, EMBOSSED METAL, AND CAST METAL HAVE BEEN DISTRIBUTED TO ALL THE STATES AND MANY INTERESTED PARTIES; AS HAS ALSO A TENTATIVE MANUAL COVERING THE ERECTION OR DISPLAY OF THE SIGNS. BY USE OF THE MANUAL IT IS HOPED TO ATTAIN THE SAME DEGREE OF STANDARDIZATION IN SIGN ERECTION AS WE HAVE ATTEMPTED TO ATTAIN IN THE DESIGN.

THE OUTSTANDING FEATURE IN OUR CORRESPONDENCE WITH THE STATES, MUNICIPAL AUTHORITIES, MANUFACTURERS, AND BUREAU ENGINEERS IS THAT THERE HAS BEEN PRACTICALLY NO ADVERSE CRITICISM OF THE DESIGNS AS FINALLY ADOPTED NOR HAVE WE HAD ANY ADVERSE COMMENTS ON DETAILS OF THE WORKING DRAWINGS. ON THE CONTRARY, MANUFACTURERS HAVE INFORMED US THAT THERE IS A GREAT DEAL OF INTEREST IN ALL SECTIONS OF THE COUNTRY REGARDING STANDARDIZED DESIGNS WITH EVERY PROBABILITY THAT THEY WILL COME INTO MORE GENERAL USE THROUGHOUT THE PRESENT SEASON AND IN THE IMMEDIATE FUTURE.

THE TREND OF CONCRETE PAVEMENT DESIGN

CONTRIBUTED BY THE DIVISION OF DESIGN

THE TREND OF CONCRETE PAVEMENT DESIGN SINCE 1921 TOWARD THE THICKENED-EDGE TYPE IS SHOWN BY A TABULATION OF FEDERAL-AID PROJECTS MADE RECENTLY BY THE DIVISION OF DESIGN. THE TABLE WHICH IS REPRODUCED ON PAGE 15 SHOWS THAT PRIOR TO 1921 ALL PROJECTS SUBMITTED WERE OF THE THIN EDGE OR UNIFORM THICKNESS DESIGN. IN THAT YEAR THE SWING TOWARD THE THICKENED-EDGE SECTION BEGAN AND THIS TYPE HAS GROWN IN FAVOR STEADILY. IN 1925, THE 9-6-9 PAVEMENTS PREDOMINATED, ALTHOUGH THERE WERE MANY 8-6-8 PROJECTS AND SEVERAL WITH A UNIFORM THICKNESS OF 7 OR 8 INCHES. THE THIN EDGE SECTIONS IN 1924 AND 1925 WERE ALL ON MARYLAND PROJECTS. THE FOLLOWING TABULATION (TABLE 1) MADE APRIL 13, 1926, BRINGS OUT CLEARLY THE CHANGE THAT HAS TAKEN PLACE IN THE SHAPE OF CONCRETE PAVEMENTS SINCE THE PLANS FOR THE FIRST FEDERAL-AID PAVEMENT WERE RECEIVED IN 1917. THE 15 PROJECTS IN TABLE 1 OF $7\frac{1}{2}$-$5\frac{1}{2}$-$7\frac{1}{2}$ DESIGN WERE ALL FROM PENNSYLVANIA, AND EVERY ONE OF THE 7-6-7 SECTIONS WAS SUBMITTED BY NEW YORK:

TABLE 1. - THE TREND OF CONCRETE PAVEMENT DESIGN BY YEARS

Pavement Thickness			Number of projects submitted by the 48 States by years								
Edge	Center	Edge	1917	1918	1919	1920	1921	1922	1923	1924	1925
Inches	Inches	Inches									
5	5	5		1		1	2	1			
6	6	6	2	3	3	24	24	49	10	4	3
7	7	7	1	11	17	31	22	80	70	33	47
7½	7½	7½	2	4	17	31	21	30	9	1	
8	8	8	4	17	68	90	78	85	61	51	44
9	9	9		1	13	9	9	8	8		
10	10	10			5	5	5	2	2		1
12	12	12							2		1
5	6	5			1	11	3	1			
5	7	5	4	10	7	4		3			
6	7	6		1	9	17	8	39	25		
6	8	6	4	13	92	60	56	71	16	25	9
7	8	7	1	11	65	55	23	24	18		
7	9	7			1	2		2	4		
8	10	8						1	1		
7	5	7						1			
7	6	7						1	23	38	43
7½	5½	7½									15
7½	6	7½								12	
8	5	8								4	
8	6	8					1	8	17	21	72
8	6½	8									4
8	7	8							3	25	33
9	5	9								2	1
9	6	9					3		55	180	160
9	6½	9								22	34
9	7	9						9	6	38	49
10	7	10						2	1	5	3
10	8	10						1	3	9	3
12	6	12									1
Total thin edge or uniform			18	72	298	340	251	396	126	114	105
Total thickened edge			0	0	0	0	4	122	108	356	418

A LOCALLY ASSEMBLED AIR COMPRESSOR

REPORT BY E. L. BROWN, ASSOCIATE HIGHWAY ENGINEER, THROUGH J. C. WONDERS, DISTRICT ENGINEER.

AN AIR-COMPRESSOR OUTFIT THAT HAS PROVED TO BE VERY EFFICIENT IN HIGHWAY MAINTENANCE AND BRIDGE CONSTRUCTION, AND OTHER WORK, HAS BEEN ASSEMBLED BY MR. M. ROSEBERRY, COUNTY ENGINEER OF SEDGWICK COUNTY, KANSAS.

THE EQUIPMENT CONSISTS OF AN 8 BY 8-INCH CURTIS COMPRESSOR AND TANK, BELT-DRIVEN BY A 40-HORSEPOWER WAUKENSHAW MOTOR AND MOUNTED ON A SURPLUS WAR QUAD TRUCK. THE TWO BARRELS SHOWN IN THE ACCOMPANYING PHOTOGRAPH (FIG. 1) ARE FOR COOLING. THE ONE NEAR THE CENTER OF THE TRUCK IS FOR THE MOTOR; THE ONE IN THE REAR IS FOR THE COMPRESSOR.

THE TOOLS ACCOMPANYING THE PLANT ARE TWO JACK HAMMERS AND DRILLS, TWO BOYER AIR HAMMERS, A LITTLE GIANT DRILL AND REAMER, AND A PAINT SPRAYER.

IT IS THE CUSTOM OF THE MAINTENANCE FOREMEN TO NOTIFY MR. ROSEBERRY'S OFFICE OF ANY CREEPING IN THE PAVEMENT DUE TO EXPANSION. WHEN THIS IS IN EVIDENCE THE COMPRESSOR IS HURRIED TO THE LOCATION AND AN EXPANSION JOINT IS CUT IN THE PAVEMENT. IT IS ALSO USED FOR CLEANING THE EXPANSION CRACKS THUS FORMED BY BLOWING OUT THE DIRT AND DUST.

THE COMPRESSOR HAS ALSO BEEN FOUND EXTREMELY HANDY IN BRIDGE CONSTRUCTION. SHEET PILING CAN BE DRIVEN OR JETTED AS THE CONDITION MAY REQUIRE. SHEET PILING HAS BEEN JETTED FIVE FEET IN 45 SECONDS. THIS JETTING IS ACCOMPLISHED BY REDUCING THE AIR HOSE TO ACCOMMODATE A 1/4 INCH PIPE. THE FREE END OF THE PIPE IS THEN DIRECTED TO THE BASE OF THE PILE IN A SUITABLE POSITION TO ALLOW THE RAPIDLY DISCHARGING AIR TO CLEAR A PATH FOR THE PILE, AND BY THE EMPLOYMENT OF SUFFICIENT WEIGHT THE PILE WILL FOLLOW THE PATH MADE BY EJECTING THE MATERIAL FROM BENEATH ITS POINT. TWO MEN WITH AN IMPROVISED HAMMER USUALLY PROVIDE SUFFICIENT WEIGHT TO SINK THE PILE.

THE COMPRESSOR IS ALSO USEFUL FOR DRILLING AND REAMING BRIDGE STEEL AND FOR FORMING A SAND BLAST FOR CLEANING SUCH MATERIAL, AND IS CAPABLE OF OPERATING A PAINT SPRAYER.

OTHER USES ACCREDITED TO THE EQUIPMENT ARE: CHIPPING AND CAULKING, GRINDING AND TOOL SHARPENING, CONCRETE BREAKING, TAMPING, CLAY SPADING, AND OPERATING AN AIR HOIST, AND IT IS BELIEVED TO BE CAPABLE OF PLACING GUNITE CONCRETE.

WHILE THE EQUIPMENT DESCRIBED IS CONSIDERED VERY EFFICIENT, IT CARRIES TWO OBJECTIONABLE FEATURES THAT MAY BE MENTIONED: ONE IS THAT ALL THE OIL IN THE COMPRESSOR MUST BE DRAWN BEFORE THE MACHINE IS MOVED FROM PLACE TO PLACE, AND THE OTHER IS THAT THE TRUCK MUST OCCUPY A LEVEL POSITION WHILE THE COMPRESSOR IS IN OPERATION.

FIGURE 1. - AIR COMPRESSOR ASSEMBLED BY THE COUNTY ENGINEER OF SEDGWICK, KANS.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS

STATUS OF FEDERAL AID ROAD CONSTRUCTION FUNDS

AS OF ... APRIL 30, 1926.

B.P.R. - F.A. - A - I
M - APRIL, 1926 - A

STATES	1	2		3		4	5		6						STATES
	APPORTIONMENT FROM JULY 11, 1916 TO DATE	ALLOTTED TO PROJECTS (SEE COLUMN 6 FOR DETAILS)		PLACED UNDER CONSTRUCTION		PAID TO STATES	BALANCE OF APPORTIONMENTS		ALLOTMENTS TO PROJECTS (SUBDIVISION OF AMOUNTS SHOWN IN COLUMN 2)						
							NOT ALLOTTED TO PROJECTS (COLUMN 1 - 2)	NOT YET PLACED UNDER CONSTRUCTION (COLUMN 1 - 3)	COMPLETED AND PAID		AGREEMENT STAGE		P.S.&E. STAGE RECOMMENDED BY DISTRICT ENGINEER		
		FEDERAL AID	MILES	FEDERAL AID	MILES				FEDERAL AID	MILES	FEDERAL AID	MILES	FEDERAL AID	MILES	
ALABAMA	$ 14,349,455.00	$ 11,056,085.88	1498.6	$ 10,989,530.80	1497.8	$ 9,651,142.63	$ 3,293,368.12	$ 3,359,924.20	$ 8,221,001.10	1234.1	$ 2,511,217.56	235.2	$ 323,868.22	29.3	ALABAMA
ARIZONA	9,617,249.00	6,843,456.37	823.3	6,480,303.49	794.9	6,188,396.06	2,767,792.63	3,136,945.51	5,764,353.70	716.1	762,312.83	37.4	339,153.85	9.8	ARIZONA
ARKANSAS	11,605,804.00	10,076,803.95	1654.8	9,840,649.95	1617.4	8,900,686.43	1,528,994.05	1,765,154.05	7,352,265.46	1285.9	2,539,321.80	340.3	185,222.69	28.6	ARKANSAS
CALIFORNIA	22,072,815.00	18,274,097.35	1358.8	18,274,097.35	1358.8	15,814,889.59	3,798,717.65	3,798,717.65	12,614,645.46	1033.6	5,228,905.42	272.8	430,546.47	52.4	CALIFORNIA
COLORADO	12,325,812.00	9,274,373.16	367.2	8,937,911.84	346.5	7,812,071.35	3,051,438.83	3,387,900.16	6,683,171.35	706.8	2,216,964.63	236.8	374,237.20	24.6	COLORADO
CONNECTICUT	4,333,681.00	3,963,077.95	158.5	2,663,540.48	144.2	2,352,862.76	1,364,603.05	1,673,840.52	2,100,685.80	117.1	622,032.63	30.8	246,459.62	10.6	CONNECTICUT
DELAWARE	2,474,058.00	2,293,783.79	164.8	2,037,520.35	142.1	1,917,078.26	180,274.21	376,537.65	1,781,665.60	124.3	315,854.75	17.8	196,263.44	22.7	DELAWARE
FLORIDA	8,064,954.00	6,383,643.11	406.5	6,383,643.11	406.5	4,666,872.92	1,701,310.89	1,701,310.89	1,405,487.97	96.3	4,370,709.60	251.8	607,445.54	57.4	FLORIDA
GEORGIA	18,431,963.00	18,038,316.37	2474.9	16,968,426.84	2414.1	14,885,621.28	393,636.63	1,463,526.16	11,395,727.34	1722.1	4,766,947.75	633.8	1,875,641.28	113.1	GEORGIA
IDAHO	8,559,627.00	7,847,684.15	919.5	7,222,820.78	835.0	6,592,502.83	711,942.85	1,336,806.22	5,738,351.29	713.9	1,248,903.58	125.0	860,429.28	80.6	IDAHO
ILLINOIS	29,832,138.00	23,155,907.68	1553.8	23,155,907.68	1553.8	22,521,099.63	6,676,290.32	6,676,290.32	20,263,861.82	1349.3	2,885,355.86	204.0	6,630.00	0.5	ILLINOIS
INDIANA	18,204,355.00	15,849,844.16	973.1	15,588,577.73	959.9	13,427,707.70	2,354,510.82	2,615,777.27	7,792,084.64	509.6	7,982,473.55	463.1	75,285.99	0.4	INDIANA
IOWA	19,485,563.00	17,160,600.63	2857.2	16,531,309.94	2600.5	13,678,724.43	2,304,962.37	3,954,253.06	11,427,858.05	2033.4	4,252,936.34	643.4	1,499,806.24	180.4	IOWA
KANSAS	19,464,411.00	17,300,297.28	1839.7	16,530,630.61	1692.7	14,427,611.92	2,164,113.72	2,873,720.39	12,567,764.81	1155.8	3,457,321.80	484.2	1,275,210.67	199.7	KANSAS
KENTUCKY	13,212,509.00	11,142,166.04	1027.2	10,399,067.50	1024.2	9,732,079.03	2,070,842.96	2,813,741.50	7,876,341.98	701.5	3,064,806.27	290.6	201,017.79	35.1	KENTUCKY
LOUISIANA	9,272,408.00	7,745,545.67	1205.2	7,745,545.67	1205.2	6,884,832.20	1,526,862.33	1,526,862.33	6,072,289.92	1042.3	1,336,422.95	103.3	336,832.80	59.6	LOUISIANA
MAINE	6,464,828.00	4,945,424.45	365.8	4,893,321.63	361.1	4,506,120.69	1,519,403.55	1,571,506.37	4,192,507.39	303.6	752,917.06	62.2			MAINE
MARYLAND	5,925,057.00	5,859,305.96	505.0	5,197,988.72	434.1	5,146,096.97	65,751.04	727,068.28	5,112,931.22	423.3	84,997.50	10.8	661,317.24	70.9	MARYLAND
MASSACHUSETTS	10,108,726.00	7,576,361.31	418.2	7,430,217.11	410.6	6,616,140.81	2,532,364.69	2,678,508.89	6,472,925.76	362.4	1,007,054.48	51.6	96,381.07	4.2	MASSACHUSETTS
MICHIGAN	20,342,365.00	15,908,534.52	1163.5	15,825,486.33	1178.2	14,548,135.17	4,433,830.48	4,516,878.61	11,765,334.08	959.1	3,992,579.06	219.1	150,021.38	5.3	MICHIGAN
MINNESOTA	19,591,780.00	17,961,116.56	3734.5	17,684,216.56	3674.6	16,782,070.15	1,630,663.44	1,907,563.44	15,023,616.56	3118.2	2,410,300.00	512.8	527,200.00	103.5	MINNESOTA
MISSISSIPPI	12,128,018.00	11,072,700.99	1486.6	10,492,254.58	1447.0	8,926,736.02	1,055,317.01	1,635,763.42	6,510,648.84	1029.8	3,374,754.83	347.7	1,167,297.52	109.1	MISSISSIPPI
MISSOURI	22,786,436.00	21,614,307.29	2089.7	21,303,823.55	2036.8	16,241,657.21	1,172,128.71	1,782,612.45	12,557,707.56	1444.5	7,461,824.02	561.8	1,594,775.71	83.4	MISSOURI
MONTANA	13,424,885.00	7,784,021.72	1272.4	7,270,200.63	1152.2	5,738,396.20	5,640,863.28	6,154,684.37	6,333,465.89	1054.9	1,383,007.69	207.0	67,548.14	10.5	MONTANA
NEBRASKA	14,635,235.00	11,994,712.03	3080.3	10,962,039.63	2872.8	8,627,656.59	2,640,522.97	3,673,135.37	5,345,616.14	1727.9	5,573,878.47	1122.5	1,069,217.42	229.9	NEBRASKA
NEVADA	8,795,215.00	7,842,606.89	867.3	7,842,606.89	867.3	7,365,668.84	952,608.11	952,608.11	4,815,691.88	525.1	2,942,409.14	328.3	84,505.93	13.9	NEVADA
NEW HAMPSHIRE	3,163,432.00	2,674,538.48	256.7	2,651,575.59	255.3	2,478,722.98	488,953.52	511,916.41	2,377,450.07	237.6	279,115.08	18.2	17,973.33	0.9	NEW HAMPSHIRE
NEW JERSEY	8,467,420.00	7,513,866.15	315.0	7,447,416.15	310.6	6,677,093.29	953,553.85	1,020,003.85	5,012,603.71	284.6	2,380,347.44	22.3	120,855.00	8.0	NEW JERSEY
NEW MEXICO	10,972,366.00	8,253,521.99	1532.7	8,206,764.09	1527.3	7,675,840.03	2,718,864.01	2,765,621.91	7,240,150.47	1410.9	883,867.52	114.9	123,504.00	6.9	NEW MEXICO
NEW YORK	34,045,195.00	27,284,049.08	1791.1	26,039,284.08	1707.8	20,372,823.33	6,761,145.92	8,005,910.92	16,490,681.84	1105.0	10,451,067.24	663.3	342,300.00	22.8	NEW YORK
NORTH CAROLINA	15,717,206.00	14,899,747.43	1467.7	14,077,427.93	1423.7	12,774,757.06	817,458.57	1,639,778.07	10,346,317.80	1213.7	3,628,330.18	210.0	925,099.45	44.0	NORTH CAROLINA
NORTH DAKOTA	10,748,659.00	9,211,883.46	3015.8	7,777,137.81	2639.8	6,706,519.82	1,536,769.54	2,971,521.19	6,008,786.10	2193.1	2,013,858.09	515.2	1,189,245.97	307.5	NORTH DAKOTA
OHIO	25,731,796.00	22,130,594.38	1744.1	20,747,057.25	1635.2	18,989,437.55	3,601,201.62	4,984,738.75	17,352,208.56	1363.0	3,613,160.36	293.2	1,165,225.46	87.9	OHIO
OKLAHOMA	16,059,787.00	14,724,128.62	1299.7	14,416,846.64	1268.4	13,471,034.99	1,335,658.38	1,642,940.36	12,234,603.14	1077.7	1,724,964.55	192.1	764,660.93	29.9	OKLAHOMA
OREGON	10,879,347.00	10,492,009.89	1080.6	9,777,627.84	1024.9	9,203,434.43	387,337.11	1,101,719.16	8,399,009.84	905.9	1,982,013.07	152.4	110,980.98	28.3	OREGON
PENNSYLVANIA	31,338,781.00	29,302,658.33	1744.9	28,372,051.49	1683.4	25,238,555.27	2,036,122.67	2,966,729.51	20,783,912.11	1137.2	6,943,314.94	490.6	1,569,431.28	117.1	PENNSYLVANIA
RHODE ISLAND	2,667,569.00	1,999,034.06	116.1	1,985,984.06	115.2	1,558,829.06	668,534.94	681,584.94	1,558,829.06	86.7	427,155.00	28.5	13,050.00	0.9	RHODE ISLAND
SOUTH CAROLINA	9,801,524.00	9,597,831.44	1733.9	9,291,725.49	1682.6	7,991,972.09	203,692.56	509,798.51	6,435,138.55	1395.3	2,453,279.87	294.0	709,412.82	44.6	SOUTH CAROLINA
SOUTH DAKOTA	11,166,790.00	9,865,917.92	2616.8	9,821,029.77	2598.8	9,214,376.61	1,300,872.08	1,345,760.23	8,282,528.22	2096.9	1,490,058.32	501.9	93,371.38	18.0	SOUTH DAKOTA
TENNESSEE	15,280,591.00	13,881,151.61	1028.4	13,341,248.56	1009.0	11,683,642.31	1,399,439.39	1,939,342.44	10,120,759.43	757.3	2,914,756.33	229.5	845,635.85	41.6	TENNESSEE
TEXAS	40,606,431.00	37,055,857.43	5896.9	35,261,748.34	5783.8	30,810,124.63	3,550,573.57	5,344,682.66	26,812,707.57	4735.0	7,410,749.86	1012.2	2,832,400.00	149.7	TEXAS
UTAH	7,818,779.00	6,373,099.62	700.5	6,373,099.62	700.5	5,816,256.84	1,445,679.38	1,445,679.38	4,583,311.26	486.2	1,711,499.22	205.1	78,289.14	9.2	UTAH
VERMONT	3,268,507.00	2,610,696.33	163.4	2,441,605.08	157.7	2,146,279.67	657,810.67	826,901.82	2,017,699.51	134.5	423,905.67	23.2	169,091.25	5.7	VERMONT
VIRGINIA	13,601,514.00	13,440,473.15	1206.5	13,151,975.61	1188.7	11,023,302.65	51,040.85	349,538.39	10,120,701.19	979.7	2,238,856.22	168.7	1,080,915.74	58.1	VIRGINIA
WASHINGTON	10,145,776.00	9,381,509.46	701.7	8,957,509.46	691.5	7,801,687.54	764,266.54	1,188,266.54	7,725,109.46	663.9	1,232,400.00	27.6	424,000.00	10.2	WASHINGTON
WEST VIRGINIA	7,352,511.00	6,554,746.47	567.1	6,127,404.74	525.1	5,151,764.77	797,764.53	1,225,106.26	3,903,866.27	383.8	2,353,886.16	152.6	296,994.04	30.7	WEST VIRGINIA
WISCONSIN	17,438,815.00	13,491,012.66	1903.4	12,462,675.16	1733.4	11,239,495.22	3,947,802.34	4,976,139.84	10,366,376.47	1589.1	2,055,709.69	204.5	1,068,926.50	109.8	WISCONSIN
WYOMING	8,568,274.00	7,641,663.07	1308.5	7,523,079.07	1293.6	7,164,938.35	924,610.93	1,043,194.93	5,997,285.05	1132.8	1,644,142.02	160.8	100,236.00	15.0	WYOMING
HAWAII	1,100,153.00	312,635.18	15.9	312,635.18	15.9	55,391.21	787,517.82	787,517.82			97,440.00	6.5	215,195.18	9.4	HAWAII
TOTALS	$ 671,375,000.00	$ 576,685,524.51	67092.9	$564,638,368.82	64565.4	$ 490,343,148.01	$ 94,685,476.49	$ 116,676,031.18	$ 411,358,717.13	50860.8	$ 136,808,692.39	13540.4	$ 28,522,114.99	2691.7	TOTALS

TENSILE STRENGTH REQUIREMENTS FOR CEMENT MAY BE INCREASED

Contributed by the Division of Tests

The Cement Committee of the American Society for Testing Materials voted at its last meeting, which was held in New York on May 7, to raise the minimum requirements for the tensile strength of cement at 7 days, from 200 to 225 pounds per square inch and, at 28 days, from 300 to 325 pounds per square inch. This action was taken on recommendation of the Subcommittee on Strength, of which Mr. P. H. Bates of the Bureau of Standards is Chairman. The subcommittee's action was influenced largely by the results of a very comprehensive survey of tests of cement made during the 1925 season. In this survey the results of over 1,000,000 briquet tests, made by 155 laboratories and representing practically every American brand, were studied and classified for the purpose of determining what percentage of the cement passing the present requirements would have been rejected if the requirements were raised to 225 and 325 pounds at 7 and 28 days, respectively. It was found as a result of the survey that approximately 5 per cent of the total number of test results fell below the 225 and 325 pound limits.

The action of the Committee was taken pending formal letter ballot on the recommendation. In the event that the letter ballot is affirmative, the Society will probably be asked to approve the recommendation of the Committee on Cement for inclusion in the standards next year.

OUTDOOR ADVERTISING ASSOCIATION OF AMERICA

THE OUTDOOR ADVERTISING ASSOCIATION OF AMERICA IS THE NAME OF A NEW ORGANIZATION CONSISTING OF OUTDOOR ADVERTISING COMPANIES ENGAGED IN MAKING, ERECTING, AND MAINTAINING POSTERS, PAINTED DISPLAYS, AND SPECTACULAR ELECTRICAL DEVICES: THE ASSOCIATION, WHICH WAS FORMED IN 1925, HAS ADOPTED THE FOLLOWING STANDARDS OF PRACTICE:

"SEC. 1 - STANDARDS OF PRACTICE. MEMBERS OF THE ASSOCIATION, BOTH PAINTED DISPLAY AND POSTER ADVERTISING OPERATORS, SHALL NOT PLACE OR POST STRUCTURES OR COPY

(1) SO AS TO CREATE A HAZARD TO TRAFFIC.

(2) ON ROCKS, POSTS, TREES, FENCES, BARRICADES OR DAUBS.

(3) ON STREETS OR PORTIONS OF STREETS WHICH ARE PURELY RESIDENTIAL IN THEIR NATURE OR IN OTHER LOCATIONS WHERE THE RESENTMENT OF REASONABLY MINDED PERSONS WOULD BE JUSTIFIED.

(4) ON STREETS FACING PUBLIC PARKS WHERE THE SURROUNDING STREETS ARE RESIDENTIAL.

(5) ON ANY LOCATIONS EXCEPT PROPERTY EITHER OWNED OR LEASED.

(6) IN LOCATIONS THAT INTERFERE WITH THE VIEW OF NATURAL SCENIC BEAUTY SPOTS.

(7) MEMBERS ARE PROHIBITED FROM TACKING, PASTING, TYING OR ERECTING CARDS, PANELS OR SIGNS OF ANY DESCRIPTION, EXCEPT THE ERECTION OF STRUCTURES THAT CONFORM TO ASSOCIATIONAL STANDARDS, AND MEMBERS ARE LIKEWISE PROHIBITED FROM PERMITTING THESE ACTS TO BE DONE BY ANY PERSON UNDER THE AUTHORITY OF THEIR LICENSE.

(8) POSTER ADVERTISING STRUCTURES SHALL NOT BE ERECTED BEYOND THE CORPORATE LIMITS OR POPULATED AREAS ADJACENT TO CITIES AND TOWNS FOR WHICH MEMBERSHIP IN THE ASSOCIATION IS MAINTAINED.

PRESENTLY EXISTING STRUCTURES BELONGING TO MEMBERS OF THE ASSOCIATION WHICH DO NOT CONFORM TO THE ABOVE STANDARDS MUST BE ELIMINATED WITHIN A PERIOD OF FIVE YEARS FROM THE DATE OF THE ADOPTION OF THESE BYLAWS AND AN ANNUAL REPORT SHALL BE MADE TO THE SECRETARY OF THE ASSOCIATION STATING THE PROGRESS MADE TOWARD CONFORMITY WITH THE ABOVE STANDARDS.

STANDARDS OF COPY. ADVERTISING COPY, EITHER PICTORIAL OR OTHERWISE, SHALL NOT BE DISPLAYED WHICH (1) IS DIRECTLY OR INDIRECTLY CRITICAL OF THE LAWS OF THE UNITED STATES, OR INDUCES A VIOLATION OF THOSE LAWS, (2) IS OFFENSIVE TO THE MORAL STANDARDS OF THE COMMUNITY AT THE TIME THE COPY IS OFFERED FOR DISPLAY, (3) INDUCES THE PURCHASE OF PROPRIETARY PREPARATIONS OR MEDICINES FOR CERTAIN CONDITIONS OR DISEASES, (4) IS FALSE, MISLEADING OR DECEPTIVE."

Mr. H. F. O'Meilia, President of the Association, states that they will be glad to cooperate with the State Highway departments in improving advertising sign conditions along the public highways. Local companies belonging to the association are doing business in some 15,000 cities or towns in the United States. The address of the headquarters office is:

Outdoor Advertising Association,
c/o Mr. H. F. O'Meilia, President,
372 Johnston Avenue,
Jersey City, New Jersey.

JUNE MEETING OF THE COMMITTEE ON TESTS AND INVESTIGATIONS, AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS.

CONTRIBUTED BY THE DIVISION OF TESTS.

A MEETING OF THE COMMITTEE ON TESTS AND INVESTIGATIONS, OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, WILL BE HELD AT THE BUREAU OF PUBLIC ROADS IN WASHINGTON ON MONDAY AND TUESDAY, JUNE 21 AND 22.

THIS COMMITTEE IS UNDER THE CHAIRMANSHIP OF MR. H. S. MATTIMORE, ENGINEER OF MATERIALS FOR THE PENNSYLVANIA STATE HIGHWAY DEPARTMENT, AND IS CHARGED WITH THE DUTY OF PREPARING METHODS OF TESTS AND SPECIFICATIONS FOR MATERIALS USED IN ROAD CONSTRUCTION. THE STANDARD AND TENTATIVE STANDARD METHODS OF SAMPLING AND TESTING HIGHWAY MATERIALS AS GIVEN IN U. S. DEPARTMENT OF AGRICULTURE BULLETIN NO. 1216 WERE PREPARED BY THIS COMMITTEE, AND ONE OF ITS PRINCIPAL DUTIES AT THE COMING MEETING WILL BE TO CONSIDER ANY POSSIBLE CHANGES OR REVISIONS IN PROCEDURE AS OUTLINED IN THIS BULLETIN OR REVISIONS THERETO WHICH WERE ADOPTED AT THE LAST MEETING OF THE COMMITTEE IN SEPTEMBER, 1925. THE COMMITTEE WILL ALSO CONSIDER CHANGES AND REVISIONS IN ITS PRESENT TENTATIVE SPECIFICATIONS FOR MATERIALS, WITH SPECIAL REFERENCE TO THE NEW PROPOSED SPECIFICATIONS FOR STRENGTH OF CEMENT.

THE COMMITTEE ON TESTS AND INVESTIGATIONS ALSO HAS UNDER WAY A NUMBER OF INTERESTING RESEARCH PROJECTS. THESE PROJECTS, WHICH ARE BEING CONDUCTED COOPERATIVELY BY ITS VARIOUS MEMBERS, INCLUDE A STUDY OF THE RELATION BETWEEN THE QUALITY OF PORTLAND CEMENT AS DETERMINED BY THE USUAL SPECIFICATION TESTS AND THE QUALITY OF THE CONCRETE IN WHICH THE CEMENT IS USED, A STUDY OF STONE SCREENINGS IN PLACE OF SAND AS FINE AGGREGATE IN CONCRETE, STUDIES OF THE VALUE OF RAIL STEEL AS REINFORCING FOR CONCRETE, STUDIES OF SUBGRADE MATERIALS AND METHODS OF TESTING, AND STUDIES OF METHODS FOR TESTING THE STABILITY OF BITUMINOUS MIXTURES. PROGRESS REPORTS COVERING THE USE OF STONE SCREENINGS AS FINE AGGREGATE AND RAIL STEEL AS REINFORCING HAVE ALREADY BEEN MADE TO THE COMMITTEE AND WILL BE DISCUSSED AT THE COMING MEETING.

United States Department of Agriculture
Bureau of Public Roads

S.P.R.-F.A.-A-1
S-May 11,1926-a

APPORTIONMENTS AND APPROPRIATIONS FOR COOPERATIVE ROAD CONSTRUCTION
BY FISCAL YEARS - AS OF MAY 11, 1926

Apportioned For Construction and Administration

Authorized By Congress	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	Total
Act of July 11, 1916 (38 Stat. 365)	$ 5,000,000	$ 10,000,000	$ 15,000,000	$ 20,000,000	$ 25,000,000	$	$	$	$	$	$	$ 75,000,000
Act of February 28, 1819 (40 Stat. 1200)			50,000,000	75,000,000	75,000,000							200,000,000
Act of Nov. 9, 1921 (42 Stat. 212)						75,000,000						75,000,000
*Act of June 19, 1922 (42 Stat. 560)							50,000,000					50,000,000
**Act of February 26, 1923 (42 Stat. 1321)								65,000,000				65,000,000
**Act of June 5, 1924 (43 Stat. 460)									75,000,000			75,000,000
Act of February 12, 1925 (43 Stat. 889)										75,000,000	75,000,000	150,000,000
Totals	$ 5,000,000	$ 10,000,000	$ 66,000,000	$ 95,000,000	$ 100,000,000	$ 75,000,000	$ 50,000,000	$ 65,000,000	$ 75,000,000	$ 75,000,000	$ 75,000,000	$ 690,000,000

Note: (*) Act of June 19, 1922 carried authorization for fiscal years 1923, 1924 and 1926 (**) Dates of Acts authorizing apportionment of funds previously authorized.

APPROPRIATIONS

Authorized By Congress	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	Total
Act of July 11, 1916 (39 Stat. 356)	$ 5,000,000	$ 10,000,000	$ 15,000,000	$ 20,000,000	$ 25,000,000	$	$	$	$	$	$	$ 75,000,000
Act of February 28, 1919 (40 Stat. 1200)			50,000,000	75,000,000	75,000,000							200,000,000
Act of November 9, 1921 (42 Stat. 212)						75,000,000						75,000,000
Act of January 22, 1923 (42 Stat. 1157)							25,000,000					25,000,000
Act of February 26, 1923 (42 Stat. 1321)								29,300,000				29,300,000
Act of June 5, 1924 (43 Stat. 460)									13,000,000			13,000,000
Act of February 10, 1925 (43 Stat. 852)							25,000,000	35,700,000	15,300,000			76,000,000
Act of March 3, 1926 Public 36-69th Congress									22,800,000			22,800,000
Act of May 11,1926 H. R. 9264									23,800,000	51,200,000		75,000,000
Totals	$ 5,000,000	$ 10,000,000	$ 55,000,000	$ 96,000,000	$ 100,000,000	$ 75,000,000	$ 50,000,000	$ 66,000,000	$ 76,000,000	$ 51,200,000	$	$ 691,200,000
Balances Unappropriated										$ 23,800,000	$ 75,000,000	$ 98,800,000

PROGRESS OF FEDERAL HIGHWAY LEGISLATION

H.R. 8264 - The Agricultural Appropriation bill for the fiscal year ending June 30, 1927, was sent to the President for signature on May 7.

This bill appropriates for Federal aid roads $23,800,000, the remainder of the $75,000,000 authorized for the fiscal year ending June 30, 1925, and $51,200,000 being part of the $75,000,000 authorized for the fiscal year ending June 30, 1926. It also appropriates for forest roads and trails $3,725,000, the remainder of the $7,500,000 for the fiscal year ending June 30, 1926, and $1,275,000 being part of the $7,500,000 authorized for the fiscal year ending June 30, 1917.

H.R. 9504 - Passed by the House on April 16, 1926, and reported out favorably by the Senate Committee on Post Offices and Post Roads without any hearings or amendments on May 5, 1926.

Amends the Federal-aid road act of July 11, 1916, as previously amended and supplemented. Provides for an authorization of $75,000,000 for Federal aid highways and $7,500,000 for forest roads and trails for each of the fiscal years 1928 and 1929.

H.R. 6707 - The Interior Department Appropriation Bill was amended to include legislation identical with S. 3071 reported in the April News Letter. The latter provided that the unexpended 1924 and 1925 Montana Federal-aid funds should be applied to certain Montana roads. The amendment was approved by a conference committee and voted down by the House. Later it was disapproved by a second conference committee and their report was adopted by the House on May 4.

SENATE DOCUMENT No. 103 - FORMS FOR BRIDGE BILLS. EXTRACTS FROM THE CONGRESSIONAL RECORD OF APRIL 30 AND MAY 1, 1926. PRESENTED BY SENATOR BINGHAM OF CONNECTICUT ON MAY 1, 1926.

BECAUSE OF THE NUMBER OF BILLS WHICH HAVE BEEN INTRODUCED IN CONGRESS TO CONTROL BRIDGES OVER NAVIGABLE STREAMS AND THE POLICY AS TO TOLL CHARGES, IT BECAME DESIRABLE TO OUTLINE STANDARD FORMS COVERING THE VARIOUS TYPES. NINE OF THESE FORMS ARE PRINTED IN THIS DOCUMENT INCLUDING THE FOLLOWING BRIDGE TYPES: (1) AN ORDINARY RAILROAD BRIDGE; (2) A PRIVATELY-OWNED FREE HIGHWAY BRIDGE OF INTRASTATE CHARACTER; (3) A PRIVATELY-OWNED FREE HIGHWAY BRIDGE OF INTERSTATE CHARACTER; (4) A MUNICIPALLY-OWNED INTRASTATE TOLL BRIDGE; (5) A STATE-OWNED INTRASTATE TOLL BRIDGE; (6) A PRIVATELY-OWNED INTRASTATE TOLL BRIDGE; (7) A MUNICIPALLY-OWNED INTERSTATE TOLL BRIDGE; (8) A PRIVATELY-OWNED INTERSTATE TOLL BRIDGE; AND (9) AN INTERNATIONAL PRIVATELY-OWNED TOLL BRIDGE.

SENATOR BINGHAM STATED "IT WILL BE NOTED THAT THESE FORMS ARE THE RESULT OF A PROLONGED SERIES OF CONFERENCES BETWEEN THE SENATE COMMITTEE AND HOUSE COMMITTEE HAVING JURISDICTION OVER BRIDGE BILLS. THE FORMS WILL BE OF SUCH ADVANTAGE TO THOSE SENATORS WHO ARE INTERESTED IN SECURING AUTHORIZATION FOR BRIDGES IN THEIR STATES THAT I RECOMMEND THEM TO THEIR CONSIDERATION."

MARYLAND AND BUREAU COOPERATING IN CONCRETE-CURING EXPERIMENT

CONTRIBUTED BY THE DIVISION OF TESTS

THE BUREAU OF PUBLIC ROADS AND THE MARYLAND STATE ROADS COMMISSION ARE COOPERATING IN STUDYING THE VALUE OF CALCIUM CHLORIDE AND SODIUM SILICATE AS CURING AGENTS IN CONCRETE PAVING CONSTRUCTION.

A STATE ROAD PROJECT NEAR WASHINGTON, D. C., HAS BEEN SELECTED FOR THIS EXPERIMENT. THE PROJECT IS ABOUT TWO AND ONE-HALF MILES IN LENGTH, AND THREE SECTIONS WILL BE CONSTRUCTED. THE FIRST SECTION WILL BE CURED WITH EARTH IN THE STANDARD MANNER; THE SECOND SECTION, WITH A 2 PER CENT ADMIXTURE OF CALCIUM CHLORIDE; AND THE THIRD SECTION, WITH A SURFACE APPLICATION OF SODIUM SILICATE.

IN ADDITION TO STUDYING THE SERVICE BEHAVIOR OF THE THREE SECTIONS, THE BUREAU IS TAKING CYLINDERS OF CONCRETE FROM SLABS CAST ALONGSIDE THE ROAD, WHICH ARE TO BE TESTED FOR COMPRESSIVE STRENGTH AT THE AGE OF 1, 3, 7, 14, 21, AND 28 DAYS. THESE TESTS WILL BE SUPPLEMENTED BY CORE TESTS FROM THE SLABS, TAKEN AT THE AGE OF 3 MONTHS, 6 MONTHS, AND ONE YEAR. THE SLABS FROM WHICH THE SPECIMENS ARE TAKEN ARE 3 BY 12 FEET IN SIZE, AND ARE CURED IN EXACTLY THE SAME MANNER AS THE PAVEMENT. THE CYLINDERS AT EARLY PERIODS WILL BE OBTAINED BY THE USE OF DOUBLE CYLINDER MOULDS, THE INNER MOULD BEING A HEAVY STEEL CYLINDER, 6 INCHES INSIDE DIAMETER. THE OUTER MOULD IS A PIECE OF SHEET IRON ROLLED IN THE FORM OF A CYLINDER JUST LARGE ENOUGH SO THAT THE INNER CYLINDER WILL SLIDE WITHIN IT. IT IS FELT THAT BY THIS METHOD IT WILL BE POSSIBLE TO OBTAIN SPECIMENS OF CONCRETE FOR TEST AT VERY EARLY PERIODS WHICH HAVE BEEN CURED UNDER PRACTICALLY IDENTICAL CONDITIONS WITH THE PAVEMENT ITSELF.

BUREAU MAKING FIELD STUDIES OF SUBGRADE SOILS

CONTRIBUTED BY THE DIVISION OF TESTS

FIELD STUDIES OF SUBGRADE SOILS BY THE BUREAU WITH STATE COOPERATION ARE IN PROGRESS IN GEORGIA AND VIRGINIA. AN ATTEMPT IS BEING MADE TO CORRELATE THE CONDITION OF THE PAVEMENTS ON VARIOUS SUBGRADE SOILS WITH THE KIND AND CONDITION OF THE SOIL. THE ULTIMATE OBJECTIVE, OF COURSE, WILL BE TO DETERMINE THE CHARACTERISTICS OF GOOD, BAD OR DOUBTFUL SUBGRADE SOILS SO THAT THEY MAY BE READILY IDENTIFIED IN THE FUTURE. THIS SHOULD BE HELPFUL IN SELECTING ADEQUATE PAVEMENT DESIGNS.

IN GEORGIA, ELEVEN FEDERAL-AID PROJECTS FROM 2 TO 4 YEARS OLD, AND TOTALING 75 MILES, HAVE BEEN SELECTED FOR STUDY. THE PROJECTS WERE BUILT ON VARIOUS SOIL TYPES AND INCLUDE TOPSOIL, BITUMINOUS, AND CONCRETE SURFACING.

IN VIRGINIA THE WORK IS CONFINED TO ONE PROJECT - NO. 336 C - LOCATED BETWEEN FAIRFAX COURT HOUSE AND WARRENTON. IT INCLUDES BOTH PLAIN CONCRETE AND VIBROLITHIC CONCRETE CONSTRUCTION.

THE FIELD WORK IN THE GEORGIA INVESTIGATION IS EXPECTED TO INCLUDE THE MAPPING OF THE PAVEMENT AND GROUND SURFACE CONDITIONS IN DETAIL, OBSERVATIONS OF DRAINAGE AND TOPOGRAPHY, AND THE SELECTION OF SOIL SAMPLES FOR LABORATORY ANALYSIS.

IN THE VIRGINIA STUDY, A SURVEY OF THE SUBGRADE WAS MADE BEFORE CONSTRUCTION BEGAN. WHILE THE PAVEMENT IS BEING BUILT AT THE PRESENT TIME, DETAILED INFORMATION IS BEING SECURED ON WEATHER CONDITIONS, FINAL PREPARATION OF THE SUBGRADE, CHARACTER AND CONDITION OF THE MATERIALS, METHOD OF MIXING, AND THE CONSISTENCY, FINISHING AND CURING OF THE PAVEMENT. A CONDITION SURVEY OF THE PAVEMENT IS BEING MADE PRIOR TO THE PLACEMENT OF THE WET EARTH COVERING. THIS CONDITION SURVEY WILL BE SUPPLEMENTED LATER AT INTERVALS BEGINNING WHEN THE ROAD IS OPENED TO TRAFFIC.

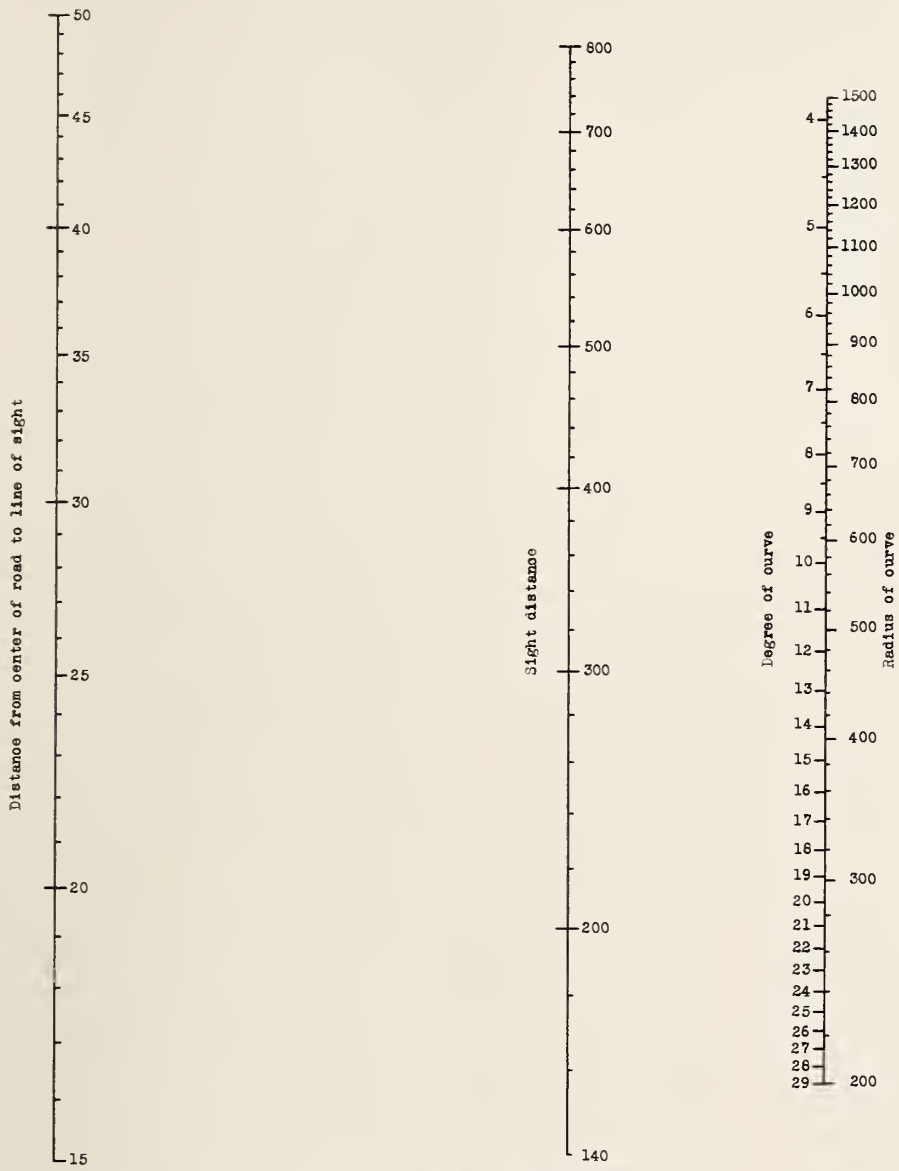


CHART FOR DETERMINING MAXIMUM SIGHT DISTANCES

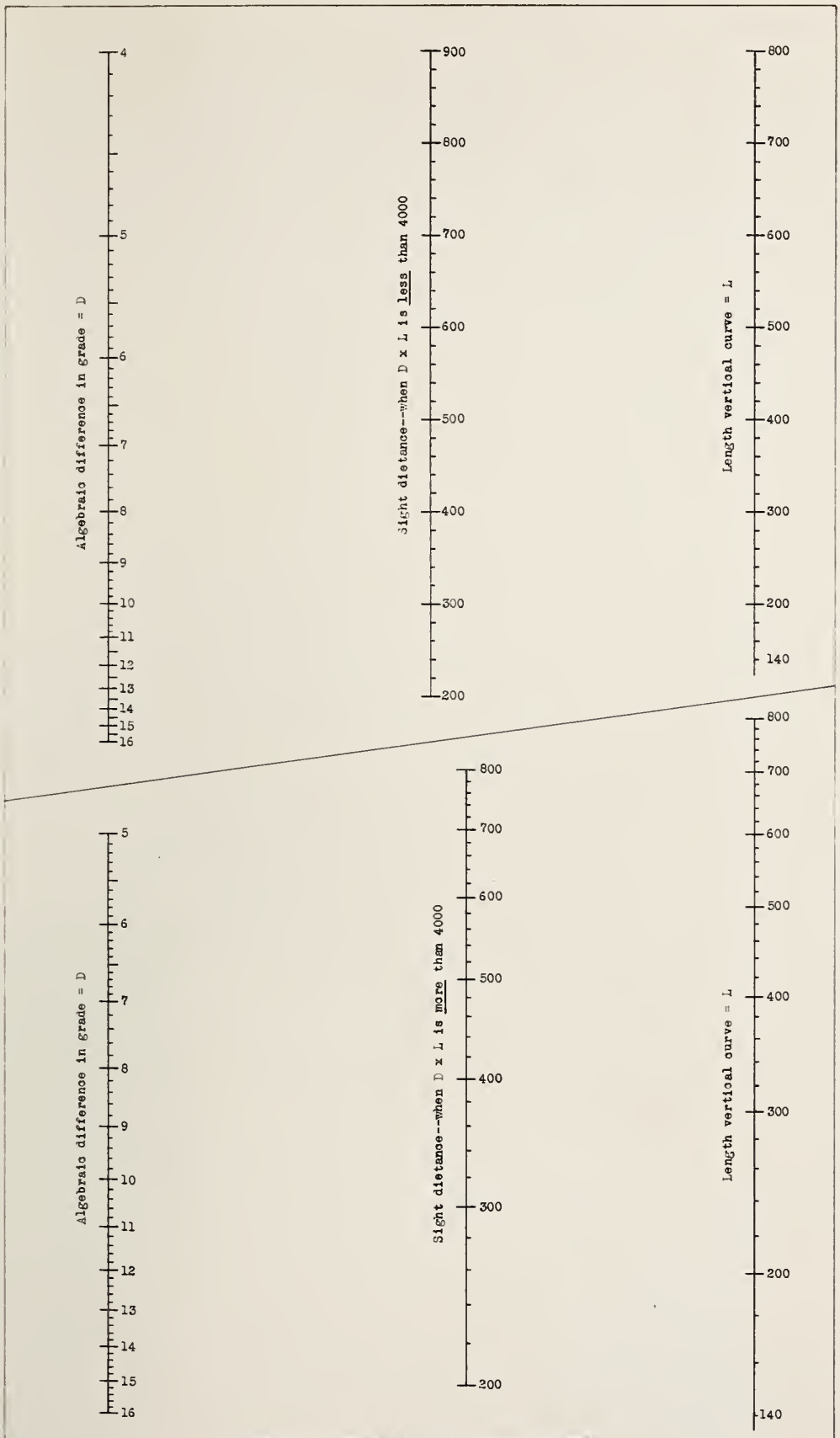
ON

HIGHWAY HORIZONTAL CURVES

Note: These values for sight distances apply when the sight distance is not greater than the long chord of the curve, but do not apply when the sight distance is between points on tangents to the curve.

Suggest eye be assumed as 5 feet above pavement.

H.J.B - District No. 7



CHARTS FOR DETERMINING MAXIMUM SIGHT DISTANCES
ON
HIGHWAY VERTICAL CURVES
(Eye assumed to be 5 ft. above pavement)

H.J.B. - District No 7